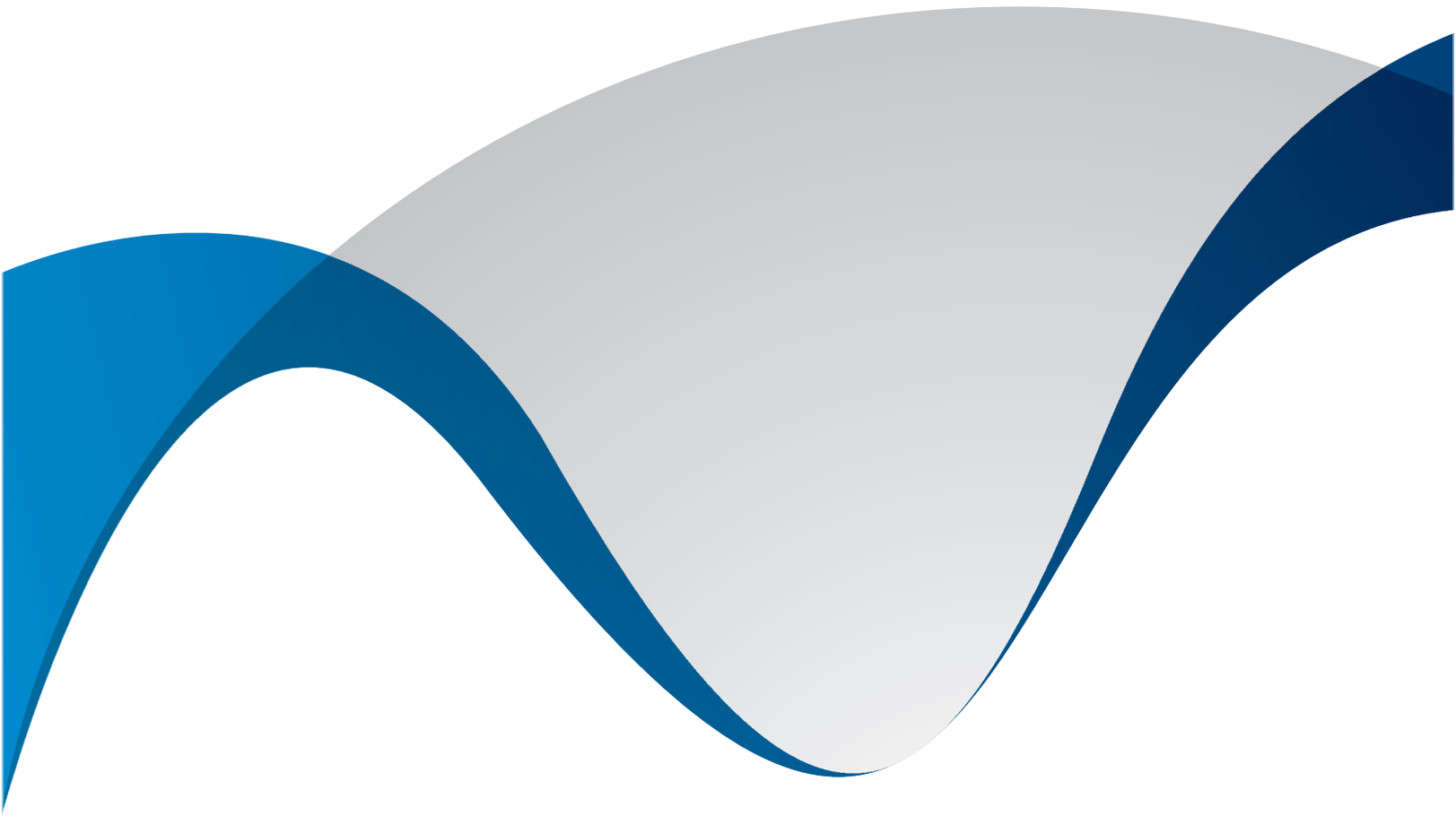
Entrepreneurship and Small Business Management



Gabe Burton

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Edited by
Gabe Burton

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Preface

This book attempts to understand the multiple branches that fall under the discipline of entrepreneurship and how such concepts have practical applications. It presents this complex subject in the most comprehensible and easy to understand language. Entrepreneurship refers to the launching, designing and running of a new business. This text is designed to provide readers with thorough insights about the subject. It is a valuable compilation of topics, ranging from the basic to the most complex theories and principles of this field. Those with an interest in entrepreneurship would find this book helpful.

A foreword of all Chapters of the book is provided below:

Chapter 1 - Entrepreneurship is defined as the process of designing, launching and running a new business. An entrepreneur is a person who manages the enterprise, instead of working under somebody else. He/she runs their own business, organization or profession. The chapter on entrepreneurship offers an insightful focus, keeping in mind the complex subject matter; **Chapter 2 -** Contemporary times have seen a surge in the emergence of small individual businesses. Entrepreneurship can be classified on the basis of the aim of the enterprise and the methodologies employed to achieve it. The classifications of entrepreneurship explicated are social entrepreneurship, knowledge entrepreneurship, creative entrepreneurship and corporate entrepreneurship; **Chapter 3 -** Entrepreneurship deals with the process of designing and running new businesses; some of the elements discussed in this chapter are small business administrations and lean startups. It incorporates all the elements of entrepreneurship, providing a complete understanding; **Chapter 4 -** The study of the entrepreneur and entrepreneurship within the economy is called entrepreneurial economics while the economic theory that emphasizes on entrepreneurship and innovation is innovation economics. This chapter focuses on entrepreneurial economics, innovation economics and entrepreneurial finance; **Chapter 5 -** Innovation, disruptive innovation, eco-innovation, induced innovation are some of the innovative strategies used in entrepreneurship. Innovation is defined as a new idea, device or a method. This chapter explains to the reader strategies used by entrepreneurs and helps them develop a better understanding; **Chapter 6 -** An angel investor is an individual who provides capital for a business startup while a hedge fund is an investment fund that pools capital from a limited number of individuals and invests in a variety of assets. Venture capital and crow funding are also explained in this chapter. The aspects elucidated are of vital importance, and provide a better understanding of financing in entrepreneurship; **Chapter 7 -** There are some key elements of success in an entrepreneurship. This chapter incorporates elements such as competitive advantage, business plan, strategic planning, cash flow and some others. Competitive advantage is a concept in business which attributes to the allowing of organizations to outperform its competitors. For a successful entrepreneur, all these strategies play a key role in the progress of their business; **Chapter 8 -** An entrepreneurship ecosystem refers to the social and economic environment affecting the local entrepreneurship. Entrepreneurship ecosystem and startup ecosystem are the significant topics related to the concept of ecosystem in entrepreneurship. The following chapter unfolds its crucial aspects in a critical yet systematic manner; **Chapter 9 -** This chapter will provide an integrated understanding of bootstrapping in entrepreneurship. Entrepreneurs usually attempt to bootstrap-finance their finance rather than

seek for external investors. One of the major reasons for them to bootstrap their finance is the fact that obtaining equity financing requires the entrepreneur to provide ownership shares to investors. Types of bootstrapping include owner financing, sweat equity, delaying bill payments and personal debt. The major components of bootstrapping are discussed in this chapter; **Chapter 10 -** A business that solves environmental problems or operates sustainably is termed as ecopreneurship. The concern of this business is not only profit but also the environment. Ecopreneurship implements sustainable product design, which reduces the materials used and also manages waste by recycling and reusing. This chapter explicates the supporting aspects of entrepreneurship; **chapter 11-** Entrepreneurs can best be understood in confluence with the major topics listed in the following chapter. Entrepreneurs manage enterprises and run their own businesses. The major types of entrepreneurs dealt within this chapter are creative entrepreneurs, fashion entrepreneur, female entrepreneur, intrapreneurship, etc. This chapter is a compilation of the various branches of entrepreneurship that form an integral part of the broader subject matter.

I would like to thank the entire editorial team who made sincere efforts for this book and my family who supported me in my efforts of working on this book. I take this opportunity to thank all those who have been a guiding force throughout my life.

Editor

1

Introduction to Entrepreneurship

Entrepreneurship is defined as the process of designing, launching and running a new business. An entrepreneur is a person who manages the enterprise, instead of working under somebody else. He/she runs their own business, organization or profession. The chapter on entrepreneurship offers an insightful focus, keeping in mind the complex subject matter.

Entrepreneurship

Entrepreneurship has traditionally been defined as the process of designing, launching and running a new business, which typically begins as a small business, such as a startup company, offering a product, process or service for sale or hire. It has been defined as the "...capacity and willingness to develop, organize, and manage a business venture along with any of its risks in order to make a profit." While definitions of entrepreneurship typically focus on the launching and running of businesses, due to the high risks involved in launching a start-up, a significant proportion of businesses have to close, due to a "...lack of funding, bad business decisions, an economic crisis -- or a combination of all of these" or due to lack of market demand. In the 2000s, the definition of "entrepreneurship" has been expanded to explain how and why some individuals (or teams) identify opportunities, evaluate them as viable, and then decide to exploit them, whereas others do not, and, in turn, how entrepreneurs use these opportunities to develop new products or services, launch new firms or even new industries and create wealth.

Left to right, Eric Schmidt, Sergey Brin and Larry Page of Google, which is cited as an example of entrepreneurship and disruptive innovation. As of the 2010s, Google is a huge corporation, but in the late 1990s, it started out as an entrepreneurial venture in a garage.

Traditionally, an entrepreneur has been defined as "a person who organizes and manages any enterprise, especially a business, usually with considerable initiative and risk". Rather than working as an employee, an entrepreneur runs a small business and assumes all the risk and reward of a given business venture, idea, or good or service offered for sale. The entrepreneur is commonly seen as a business leader and innovator of new ideas and business processes." Entrepreneurs tend to be good at perceiving new business opportunities and they often exhibit positive biases in their perception (i.e., a bias towards finding new possibilities and seeing unmet market needs) and a pro-risk-taking attitude that makes them more likely to exploit the opportunity."Entrepreneurial spirit is characterized by innovation and risk-taking." While entrepreneurship is often associated with new, small, for-profit start-ups, entrepreneurial behavior can be seen in small-, medium- and large-sized firms, new and established firms and in for-profit and not-for-profit organizations, including voluntary sector groups, charitable organizations and government. For example, in the 2000s, the field of social entrepreneurship has been identified, in which entrepreneurs combine business activities with humanitarian, environmental or community goals.

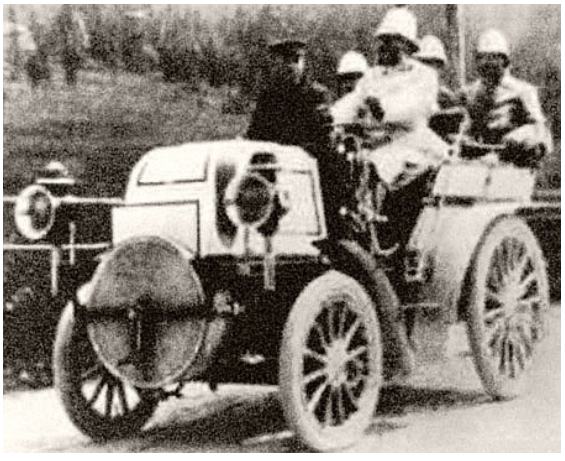
An entrepreneur is typically in control of a commercial undertaking, directing the factors of production–the human, financial and material resources–that are required to exploit a business opportunity. They act as the manager and oversees the launch and growth of an enterprise. Entrepreneurship is the process by which an individual (or team) identifies a business opportunity and acquires and deploys the necessary resources required for its exploitation. The exploitation of entrepreneurial opportunities may include actions such as developing a business plan, hiring the human resources, acquiring financial and material resources, providing leadership, and being responsible for the venture's success or failure. Economist Joseph Schumpeter (1883–1950) stated that the role of the entrepreneur in the economy is "creative destruction"–launching innovations that simultaneously destroy old industries while ushering in new industries and approaches. For Schumpeter, the changes and "dynamic disequilibrium brought on by the innovating entrepreneur ... [are] the 'norm' of a healthy economy."

Entrepreneurship typically operates within an entrepreneurship ecosystem which often includes government programs and services that promote entrepreneurship and support entrepreneurs and start-ups; non-governmental organizations such as small business associations and organizations that offer advice and mentoring to entrepreneurs (e.g., through entrepreneurship centers or websites); small business advocacy organizations that lobby the government for increased support for entrepreneurship programs and more small business-friendly laws and regulations; entrepreneurship resources and facilities (e.g., business incubators and seed accelerators); entrepreneurship education and training programs offered by schools, colleges and universities; and financing (e.g., bank loans, venture capital financing, angel investing, and government and private foundation grants). The strongest entrepreneurship ecosystems are those found in top entrepreneurship hubs such as Silicon Valley, New York City, Boston, Singapore and other such locations where there are clusters of leading high-tech firms, top research universities, and venture capitalists. In the 2010s, entrepreneurship can be studied in college or university as part of the disciplines of management or business administration.

History

Historical Usage

Entrepreneur, word from French. First used in 1723, today the term *entrepreneur* implies qualities of leadership, initiative, and innovation in new venture design. Economist Robert Reich has called team-building, leadership, and management ability essential qualities for the entrepreneur. Historically the study of entrepreneurship reaches back to the work in the late 17th and early 18th centuries of Richard Cantillon and Adam Smith, which was founda-tional to classical economics.



Emil Jellinek-Mercedes (1853–1918), pictured at the steering wheel of his car, was a European entrepreneur who designed the engine for the first modern car.

Joseph Schumpeter

In the 20th century, entrepreneurship was studied by Joseph Schumpeter in the 1930s and other Austrian economists such as Carl Menger, Ludwig von Mises and Friedrich von Hayek. The term "entrepreneurship" was coined around the 1920s, while the loan from French of the word *entrepreneur* dates to the 1850s. According to Schumpeter, an entrepreneur is willing and able to convert a new idea or invention into a successful innovation. Entrepreneurship employs what Schumpeter called "the gale of creative destruction" to replace in whole or in part inferior offerings across markets and industries, simultaneously creating new products and new business models. Thus, creative destruction is largely responsible for long-term economic growth. The idea that entrepreneurship leads to economic growth is an interpretation of the residual in endogenous growth theory and as such continues to be debated in academic economics. An alternate description by Israel Kirzner suggests that the majority of innovations may be incremental improvements such as the replacement of paper with plastic in the construction of a drinking straw that require no special qualities.

For Schumpeter, entrepreneurship resulted in new industries and in new combinations of currently existing inputs. Schumpeter's initial example of this was the combination of a steam engine and then current wagon making technologies to produce the horseless carriage. In this case the innovation, the car, was transformational, but did not require the development of dramatic new technology. It did not immediately replace the horse-drawn carriage, but in time, incremental im-

provements reduced the cost and improved the technology, leading to the modern auto industry. Despite Schumpeter's early 20th-century contributions, traditional microeconomic theory did not formally consider the entrepreneur in its theoretical frameworks (instead assuming that resources would find each other through a price system). In this treatment, the entrepreneur was an implied but unspecified actor, consistent with the concept of the entrepreneur being the agent of x-efficiency.

For Schumpeter, the entrepreneur did not bear risk: the capitalist did. Schumpeter believed that the equilibrium ideal was imperfect Schumpeter (1934) demonstrated that changing environment continuously provides new information about the optimum allocation of resources to enhance profitability some individuals acquire the new information before others, recombine the resources to gain an entrepreneurial profit. Schumpeter was of the opinion that entrepreneurs shift the Production Possibility Curve to a higher level using innovations.

Initially, economists made the first attempt to study the entrepreneurship concept in depth Richard Cantillon (1680-1734) considered the entrepreneur to be a risk taker who deliberately allocates resources to exploit opportunities in order to maximize the financial return. Cantillon emphasized the willingness of the entrepreneur to assume risk and to deal with uncertainty. Thus, he draws attention to the function of the entrepreneur, and distinguishes clearly between the function of the entrepreneur and the owner who provides the money. Alfred Marshall viewed the entrepreneur as a multi-tasking capitalist. He observed that in the equilibrium of a completely competitive market, there was no spot for "entrepreneurs" as an economic activity creator.

Historical Barriers

Dating back to the time of the medieval guilds in Germany, a craftsperson required special permission to operate as an entrepreneur was the small proof of competence (Kleiner Befähigungsnachweis), which restricted training of apprentices to craftspeople who held a Meister certificate. This institution was introduced in 1908 after a period of so-called freedom of trade (Gewerbefreiheit, introduced in 1871) in the German Reich. However, proof of competence was not required to start a business. In 1935 and in 1953, greater proof of competence was reintroduced (Großer Befähigungsnachweis Kuhlenbeck), which required craftspeople to obtain a Meister apprentice-training certificate before being permitted to set up a new business.

2000s

In the 2000s, "entrepreneurship" has been extended from its origins in for-profit businesses to include social entrepreneurship, in which business goals are sought alongside social, environmental or humanitarian goals, and even the concept of the political entrepreneur. Entrepreneurship within an existing firm or large organization has been referred to as *intrapreneurship* and may include corporate ventures where large entities "spin off" subsidiary organizations.

Entrepreneurs are leaders willing to take risk and exercise initiative, taking advantage of market opportunities by planning, organizing, and deploying resources, often by innovating to create new or improving existing products or services. In the 2000s, the term "entrepreneurship" has been extended to include a specific mindset resulting in entrepreneurial initiatives, e.g. in the form of social entrepreneurship, political entrepreneurship, or knowledge entrepreneurship. According to

Paul Reynolds, founder of the Global Entrepreneurship Monitor, "by the time they reach their retirement years, half of all working men in the United States probably have a period of self-employment of one or more years; one in four may have engaged in self-employment for six or more years. Participating in a new business creation is a common activity among U.S. workers over the course of their careers." In recent years, entrepreneurship has been claimed as a major driver of economic growth in both the United States and Western Europe.

In 2012, Ambassador-at-Large for Global Women's Issues Melanne Verveer greets participants in an African Women's Entrepreneurship Program at the State Department in Washington, D.C.

Entrepreneurial activities differ substantially depending on the type of organization and creativity involved. Entrepreneurship ranges in scale from solo, part-time projects to large-scale undertakings that involve a team and which may create many jobs. Many "high value" entrepreneurial ventures seek venture capital or angel funding (seed money) in order to raise capital for building and expanding the business. Many organizations exist to support would-be entrepreneurs, including specialized government agencies, business incubators (which may be for-profit, non-profit, or operated by a college or university), science parks, and Non-governmental organizations, which include a range of organizations including not-for-profits, charities, foundations and business advocacy groups (e.g., Chambers of Commerce). Beginning in 2008, an annual "Global Entrepreneurship Week" event aimed at "exposing people to the benefits of entrepreneurship" and getting them to "participate in entrepreneurial-related activities" was launched.

Definition

The term *entrepreneur* is defined as an individual who organizes or operates a business or businesses. Credit for coining this term generally goes to the French economist Jean-Baptiste Say. However, the Irish-French economist Richard Cantillon defined the term first in his *Essai sur la Nature du Commerce en Général*, or *Essay on theNature of Trade in General*, a book William Stanley Jevons considered the "cradle of political economy". Cantillon used the term differently; biographer Anthony Breer noted that Cantillon saw the entrepreneur as a risk-taker while Say considered the entrepreneur a "planner". Cantillon defined the term as a person who pays a certain price for a product and resells it at an uncertain price: "making decisions about obtaining and using the resources while consequently admitting the risk of enterprise." The word first appeared in the French dictionary entitled "Dictionnaire Universel de Commerce" compiled by Jacques des Bruslons and published in 1723.

Sean John Combs is an American record producer, rapper and entrepreneur.

Relationship Between Small Business and Entrepreneurship

The term "entrepreneur" is often conflated with the term "small business" or used interchangeably with this term. While most entrepreneurial ventures start out as a small business, not all small businesses are entrepreneurial in the strict sense of the term. Many small businesses are sole proprietor operations consisting solely of the owner, or they have a small number of employees, and many of these small businesses offer an existing product, process or service, and they do not aim at growth. In contrast, entrepreneurial ventures offer an innovative product, process or service, and the entrepreneur typically aims to scale up the company by adding employees, seeking international sales, and so on, a process which is financed by venture capital and angel investments. Successful entrepreneurs have the ability to lead a business in a positive direction by proper planning, to adapt to changing environments and understand their own strengths and weakness.

Ethnic Entrepreneurship

The term ethnic entrepreneurship refers to self-employed, business owners who belong to racial or ethnic minority groups in the United States and Europe. A long tradition of academic research explores the experiences and strategies of ethnic entrepreneurs as they strive to integrate economically into mainstream US or European society. Classic cases include Jewish merchants and tradespeople in large U.S. cities in the 19th and early 20th centuries as well as Chinese and Japanese small business owners (restaurants, farmers, shop clerks) on the West Coast.

In the 2010s, ethnic entrepreneurship has been studied in the case of Cuban business owners in Miami, Indian motel owners in the U.S. and Chinese business owners in Chinatowns across the United States. While entrepreneurship offers these groups many opportunities for economic advancement, self-employment, and business ownership in the United States remain unevenly distributed along racial/ethnic lines. Despite numerous success stories of Asian entrepreneurs, a recent statistical analysis of U.S. census data shows that whites are more likely than Asians, African-Americans, and Latinos to be self-employed in high prestige, lucrative industries.

Institutional Entrepreneur

The USA-born British economist Edith Penrose has highlighted the collective nature of entrepreneurship. She mentions that in modern organizations, human resources need to be combined in order to better capture and create business opportunities. The sociologist Paul DiMaggio (1988:14) has expanded this view to say that "new institutions arise when organized actors with sufficient resources [institutional entrepreneurs] see in them an opportunity to realize interests that they value highly". The notion has been widely applied.

Entrepreneurial Behaviours

The entrepreneur is commonly seen as an innovator — a designer of new ideas and business processes. Management skill and strong team building abilities are often perceived as essential leadership attributes for successful entrepreneurs. Political economist Robert Reich considers leadership, management ability, and team-building to be essential qualities of an entrepreneur.

British entrepreneur Karren Brady has an estimated net worth of $123 million

Risk-Taking

Theorists Frank Knight and Peter Drucker defined entrepreneurship in terms of risk-taking. The entrepreneur is willing to put his or her career and financial security on the line and take risks in the name of an idea, spending time as well as capital on an uncertain venture. Knight classified three types of uncertainty:

Dell Women's Entrepreneur Network event in New York City, May 2013

- Risk, which is measurable statistically (such as the probability of drawing a red color ball from a jar containing 5 red balls and 5 white balls).

- Ambiguity, which is hard to measure statistically (such as the probability of drawing a red ball from a jar containing 5 red balls but with an unknown number of white balls).
- True uncertainty or Knightian uncertainty, which is impossible to estimate or predict statistically, such as the probability of drawing a red ball from a jar in which the number of red balls is and the number of other-colored balls is unknown.

Entrepreneurship is often associated with true uncertainty, particularly when it involves the creation of a novel good or service, for a market that did not previously exist, rather than when a venture creates an incremental improvement to an existing product or service. A 2014 study at ETH Zürich found that compared with typical managers, entrepreneurs showed higher decision-making efficiency, and a stronger activation in regions of frontopolar cortex (FPC) previously associated with explorative choice.

Strategies

Strategies that entrepreneurs may use include:

- Innovation of new products, services or processes
- Continuous Process Improvement (CPI)
- Use of technology
- Development of future products and services
- Optimized talent management

Designing Individual/Opportunity Nexus

According to Shane and Venkataraman, entrepreneurship comprises both "enterprising individuals" and "entrepreneurial opportunities", and researchers should study the nature of the individuals who respond to these opportunities when others do not, the opportunities themselves and the nexus between individuals and opportunities. On the other hand, Reynolds et al. argue that individuals are motivated to engage in entrepreneurial endeavors driven mainly by necessity or opportunity, that is, individuals pursue entrepreneurship primarily owing to survival needs, or because, they identify business opportunities that satisfy their need for achievement. For example, higher economic inequality tends to increase entrepreneurship rates at the individual level. However, most of it is often based on necessity rather than opportunity.

Opportunity Perception and Biases

The ability of entrepreneurs to innovate relates to innate traits, including extroversion and a proclivity for risk-taking. According to Joseph Schumpeter, the capabilities of innovating, introducing new technologies, increasing efficiency and productivity, or generating new products or services, are characteristic qualities of entrepreneurs. Also, many scholars maintain that entrepreneurship is a matter of genes, and that it is not everyone who can be an entrepreneur. Some people may be able to use "an innate ability" or quasi-statistical sense to gauge public opinion and market demand for new products or services. Entrepreneurs tend to have the ability to see unmet market

needs and underserved markets. While some entrepreneurs assume they can sense and figure out what others are thinking, the mass media plays a crucial role in shaping views and demand. Ramoglou argues that entrepreneurs are not that distinctive and that it is essentially poor conceptualizations of "non-entrepreneurs" that maintain laudatory portraits of "entrepreneurs" as exceptional innovators or leaders

Styles

Differences in entrepreneurial organizations often partially reflect their founders' heterogenous identities. Fauchart and Gruber have classified entrepreneurs into three main types: *Darwinians*, *Communitarians,* and *Missionaries*. These types of entrepreneurs diverge in fundamental ways in their self-views, social motivations, and patterns of new firm creation.

Links to Sea Piracy

Research from 2014 found links between entrepreneurship and historical sea piracy. In this context, the claim is made for a non-moral approach to looking at the history of piracy as a source of inspiration for entrepreneurship education as well as for research in entrepreneurship and business model generation.

Psychological Make-up

Stanford University economist Edward Lazear found in a 2005 study that variety in education and work experience was the most important trait that distinguished entrepreneurs from non-entrepreneurs A 2013 study by Uschi Backes-Gellner of the University of Zurich and Petra Moog of the University of Siegen in Germany found that a diverse social network was also important in distinguishing students who would go on to become entrepreneurs

Studies show that the psychological propensities for male and female entrepreneurs are more similar than different. Empirical studies suggest that female entrepreneurs possess strong negotiating skills and consensus-forming abilities. Asa Hansson, who looked at empirical evidence from Sweden, found that the probability of becoming self-employed decreases with age for women, but increases with age for men. She also found that marriage increased the probability of a person becoming an entrepreneur.

Jesper Sørensen wrote that significant influences on the decision to become an entrepreneur are workplace peers and social composition. Sørensen discovered a correlation between working with former entrepreneurs and how often these individuals become entrepreneurs themselves, compared to those who did not work with entrepreneurs. Social composition can influence entrepreneurialism in peers by demonstrating the possibility for success, stimulating a "He can do it, why can't I?" attitude. As Sørensen stated, "When you meet others who have gone out on their own, it doesn't seem that crazy."

Entrepreneurs may also be driven to entrepreneurship by past experiences. If they have faced multiple work stoppages or have been unemployed in the past the probability of them becoming an entrepreneur increases Per Cattell's personality framework, both personality traits and attitudes are thoroughly investigated by psychologists. However, in case of entrepreneurship research, these

notions are employed by academics too, but vaguely. According to Cattell, personality is a system that is related to the environment. He further adds that the system seeks explanation to the complex transactions conducted by both - traits and attitudes. This is because both of them bring about change and growth in a person. Personality is that which informs what an individual will do when faced with a given situation. A person's response is triggered by his/her personality and the situation that is faced.

Innovative entrepreneurs may be more likely to experience what psychologist Mihaly Csikszentmihalyi calls *flow*. "Flow" occurs when an individual forgets about the outside world due to being thoroughly engaged in a process or activity. Csikszentmihalyi suggested that breakthrough innovations tend to occur at the hands of individuals *in that state*. Other research has concluded that a strong internal motivation is a vital ingredient for breakthrough innovation. Flow can be compared to Maria Montessori's concept of normalization, a state that includes a child's capacity for joyful and lengthy periods of intense concentration. Csikszentmihalyi acknowledged that Montessori's *prepared environment* offers children opportunities to achieve flow. Thus quality and type of early education may influence entrepreneurial capability.

Communication

Entrepreneurs need to practice effective communication both within their firm and with external partners and investors, in order to launch and growth a venture and enable it to survive. An entrepreneur needs a communication system that links the staff of her firm and connects the firm to outside firms and clients. Entrepreneurs should be charismatic leaders, so they can communicate a vision effectively to their team and help to create a strong team. Communicating a vision to followers may be well the most important act of the transformational leader. Compelling visions provide employees with a sense of purpose and encourage commitment. According to Baum et al. Kouzes and Posner the vision must be communicated through written statements and through in-person communication. Entrepreneurial leaders must speak *and* listen to effectively articulate their vision to others.

Communication is pivotal in the role of entrepreneurship, because it enables leaders to convince potential investors, partners and employees about the feasibility of a venture. Entrepreneurs need to communicate effectively to shareholders.Nonverbal elements in speech such as the tone of voice, the look in the sender's eyes, body language, hand gestures, and state of emotions are also important communication tools. The Communication Accommodation Theory posits that throughout communication, people will attempt to accommodate or adjust their method of speaking to others. Face Negotiation Theory describes how people from different cultures manage conflict negotiation in order to maintain "face". Hugh Rank's "intensify and downplay" communications model can be used by entrepreneurs who are developing a new product or service. Rank argues that entrepreneurs need to be able to intensify the advantages of their new product or service and downplay the disadvantages, in order to persuade others to support their venture.

Educational Effects

Michelacci and Schivardi a pair of researchers who believe that identifying and comparing the relationships between an entrepreneur's earnings and education level would determine the rate and level of success. Their study focused on two education levels, college degree and post-graduate

degree. While Michelacci and Schivardi do not specifically determine characteristics or traits for successful entrepreneurs, they do believe that there is a direct relationship between education and success, noting that having a college degree does contribute to advancement in the workforce.

Michelacci and Schivardi state there has been a rise in the number of self-employed people with a baccalaureate degree. However, their findings also show that those who are self-employed and possess a graduate degree has remained consistent throughout time at about 33 percent. They briefly mention those famous entrepreneurs, like Steve Jobs and Mark Zuckerberg who were college dropouts, but they call these cases all but exceptional, as it is a pattern that many entrepreneurs view formal education as costly, mainly because of the time that needs to be spent on it. Michelacci and Schivardi believe that in order for an individual to reach full success they need to have education beyond high school. Their research shows that the higher the education level the greater the success. The reason is that college gives people additional skills that can be used within their business and to operate on a higher level than someone who only "runs" it.

Project Entrepreneurship

Project entrepreneurs are individuals who are engaged in the repeated assembly or creation of temporary organizations. These are organizations that have limited livespans which are devoted to producing a singular objective or goal and get disbanded rapidly when the project ends. Industries where project-based enterprises are widespread include: sound recording, film production, software development, television production, new media and construction. What makes project-entrepreneurs distinctive from a theoretical standpoint is that they have to "rewire" these temporary ventures and modify them to suit the needs of new project opportunities that emerge. A project entrepreneur who used a certain approach and team for one project may have to modify the business model and/or team for a subsequent project.

Project entrepreneurs are exposed repeatedly to problems and tasks typical of the entrepreneurial process. Indeed, project-entrepreneurs face two critical challenges that invariably characterize the creation of a new venture: locating the right opportunity to launch the project venture and assembling the most appropriate team to exploit that opportunity effectively. Resolving the first challenge requires project-entrepreneurs to access an extensive range of information needed to seize new investment opportunities. Resolving the second challenge requires assembling a collaborative team that has to fit well with the particular challenges of the project, and has to function almost immediately to reduce the risk that performance might be adversely affected.

Another type of project entrepreneurship involves entrepreneurs working with business students to get analytical work done on their ideas.

Financing

Bootstrapping

Entrepreneurs may attempt to "bootstrap-finance" their start-up rather than seeking external investors. One of the reasons that some entrepreneurs prefer to "bootstrap" is that obtaining equity financing requires the entrepreneur to provide ownership shares to the investors. If the start-up becomes successful later on, these early equity financing deals could provide a windfall for the

investors and a huge loss for the entrepreneur. As well, if investors have a significant stake in the company, they may be able to exert influence on company strategy, CEO choice, and so on.

One consensus definition of bootstrapping sees it as "a collection of methods used to minimize the amount of outside debt and equity financing needed from banks and investors". Most commonly, entrepreneurs engaging in bootstrapping incur personal credit-card debt, but they may utilize a wide variety of methods. While bootstrapping involves increased risk for entrepreneurs, the absence of any other stakeholder gives the entrepreneur more freedom to develop the company. Many successful companies - including Dell Computer and Facebook - started by bootstrapping.

Types of bootstrapping include:

- Owner financing
- Sweat equity
- Minimization of accounts payable (e.g., delaying bill payment)
- Joint utilization
- Minimizing inventory
- Subsidy finance
- Personal debt

External Financing

Many businesses need more capital than can be provided by the owners themselves, and in this case, a range of options is available including:

- Angel investors
- Venture capital investors.
- Crowdfunding
- Hedge funds
- Alternative asset management

Some of these sources provide not only funds, but also financial oversight, accountability for carrying out tasks and meeting milestones, and in some cases business contacts and experience – in many cases in return for an equity stake.

Effect of Taxes

Entrepreneurs are faced with liquidity constraints and often lack the necessary credit needed to borrow large amounts of money to finance their venture. Because of this, many studies have been done on the effects of taxes on entrepreneurs. The studies fall into two camps: the first camp finds that taxes help and the second argues that taxes hurt entrepreneurship.

Cesaire Assah Meh found that corporate taxes create an incentive to become an entrepreneur to avoid double taxation. Donald Bruce and John Deskins found literature suggesting that a higher corporate tax rate may reduce a state's share of entrepreneurs. They also found that states with an inheritance or estate tax tend to have lower entrepreneurship rates when using a tax-based measure. But another study found that states with a more progressive personal income tax have a higher percentage of sole proprietors in their workforce. Ultimately, many studies find that the effect of taxes on the probability of becoming an entrepreneur is small. Donald Bruce and Mohammed Mohsin found that it would take a 50 percentage point drop in the top tax rate to produce a one percent change in entrepreneurial activity

Predictors of Success

Factors that may predict entrepreneurial success include the following:

Methods

- Establishing strategies for the firm, including growth and survival strategies
- Maintaining the human resources (recruiting and retaining talented employees and executives)
- Ensuring the availability of required materials (e.g., raw resources used in manufacturing, computer chips, etc.)
- Using that the firm has one or more unique competitive advantages
- Ensuring good organizational design, sound governance and organizational coordination
- Congruency with the culture of the society

Market

- Business-to-business (B2B) or business-to-consumer (B2C) models can be used
- High growth market
- Target customers or markets that are untapped or missed by others

Industry

- Growing industry
- High technology impact on the industry
- High capital intensity
- Small average incumbent firm size

Team

- Large, gender-diverse and racially diverse team with a range of talents, rather than an individual entrepreneur
- Graduate degrees

- Management experience prior to start-up
- Work experience in the start-up industry
- Employed full-time prior to new venture, as opposed to unemployed
- Prior entrepreneurial experience
- Full-time involvement in the new venture
- Motivated by a range of goals, not just profit
- Number and diversity of team members' social ties and breadth of their business networks

Company

- Written business plan
- Focus on a unified, connected product line or service line
- Competition based on a dimension other than price (e.g., quality or service)
- Early, frequent, intense and well-targeted marketing
- Tight financial controls
- Sufficient start-up and growth capital
- Corporation model, not sole proprietorship

Status

- Wealth can enable an entrepreneur to cover start-up costs and deal with cash flow challenges
- Dominant race, ethnicity, or gender in a socially stratified culture

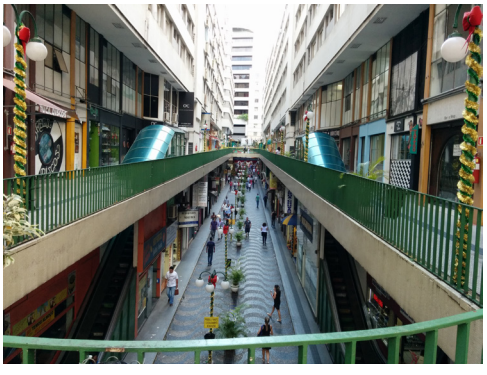
Small Business

Small businesses are privately owned corporations, partnerships, or sole proprietorships that have fewer employees and/or less annual revenue than a regular-sized business or corporation. What businesses are defined as "small" in terms of being able to apply for government support and qualify for preferential tax policy varies depending on the country and industry. Small businesses range from fifteen employees under the Australian *Fair Work Act 2009*, fifty employees according to the definition used by the European Union, and fewer than five hundred employees, to qualify for many U.S. Small Business Administration programs. While small businesses can also be classified according to other methods, such as annual revenues, shipments, sales, assets, or by annual gross or net revenue or net profits, the number of employees is one of the most widely used measures.

Small businesses on Dalrymple Street in Greenock, Scotland

Small businesses in many countries include service or retail operations such as convenience stores, small grocery stores, bakeries or delicatessens, hairdressers or tradespeople (e.g., carpenters, electricians), restaurants, guest houses, photographers, very small-scale manufacturing, and Internet-related businesses such as web design and computer programming. Some professionals operate as small businesses, such as lawyers, accountants, dentists and medical doctors (although these professionals can also work for large organizations or companies). Small businesses vary a great deal in terms of size, revenues and regulatory authorization, both within a country and from country to country. Some small businesses, such as a home accounting business, may only require a business license. On the other hand, other small businesses, such as day cares, retirement homes and restaurants serving liquor are more heavily regulated, and may require inspection and certification from various government authorities.

Characteristics



Small businesses in the Central Zone of São Paulo.

Researchers and analysts of small or owner-managed businesses generally behave as if nominal organizational forms (e.g., partnership, sole-trader, or corporation), and the consequent legal and accounting boundaries of owner-managed firms are consistently meaningful. However, owner-managers often do not delineate their behavior to accord with the implied separation between their personal and business interests. Lenders also often contract around organizational (corporate) boundaries by seeking personal guarantees or accepting privately held assets as collateral.

Because of this behavior, researchers and analysts may wish to be cautious in the way they assess the organizational types and implied boundaries in contexts relating to owner-managed firms. These include analyses that use traditional accounting disclosures, and studies that view the firm as defined by some formal organizational structure.

Relationship Between Entrepreneurship and Small Business

The term "entrepreneur" is often conflated with the term "small business" or used interchangeably with this term. While most entrepreneurial ventures start out as a small business, not all small businesses are entrepreneurial in the strict sense of the term. Many small businesses are sole proprietor operations consisting solely of the owner, or they have a small number of employees, and many of these small businesses offer an existing product, process or service, and they do not aim at growth. In contrast, entrepreneurial ventures offer an innovative product, process or service, and the entrepreneur typically aims to scale up the company by adding employees, seeking international sales, and so on, a process which is financed by venture capital and angel investments. Successful entrepreneurs have the ability to lead a business in a positive direction by proper planning, to adapt to changing environments and understand their own strengths and weakness.

Portici di Sottoripa, Genova, Italy Galleries tend to form clusters of small business owners over time.

Size Definitions

The legal definition of "small business" varies by country and by industry. In the United States, the Small Business Administration establishes small business size standards on an industry-by-industry basis, but generally specifies a small business as having fewer than five hundred employees for manufacturing businesses and less than $7.5 million in annual receipts for most non manufacturing businesses. The definition can vary by circumstance – for example, a small business having fewer than twenty-five full-time equivalent employees with average annual wages below $50,000 qualifies for a tax credit under the health care reform bill Patient Protection and Affordable Care Act.

The European Union generally defines a small business as one that has fewer than fifty employees. However, in Australia, a small business is defined by the *Fair Work Act 2009* as one with fewer than fifteen employees. By comparison, a medium-sized business or mid-sized business has fewer than five hundred employees in the US, and fewer than two hundred in Australia.

In addition to number of employees, other methods used to classify small companies include annual sales (turnover), value of assets and net profit (balance sheet), alone or in a mixed definition. These criteria are followed by the European Union, for instance (headcount, turnover, and balance sheet totals). Small businesses are usually not dominant in their field of operation.

The table below serves as a useful guide to business size nomenclature.

Business Size Definitions (By Number of Employees)

	AUS	US	CAN	EU
Minute/Micro	1-2	1-6	1-4	<10
Small	<15	<250	1-99	<50
Medium	<200	<500	100-499	<250
Large	<500	<1000	>500	<1000
Enterprise	>500	>1000	N/A	>1000

- Most cells reflect sizes not defined in legislation
- Some definitions are multi-parameter, e.g., by industry, revenue or market share

Demographics

According to the US 2012 Survey of Business Owners (SBO) there are: 27.6 million businesses in the United States. 9.9 million of these businesses in the United States were owned or led by a woman, representing 35.9% of overall business ownership.

Franchise Businesses

Franchising is a way for small business owners to benefit from the economies of scale of the big corporation (franchiser). McDonald's and Subway are examples of a franchise. The small business owner can leverage a strong brand name and purchasing power of the larger company while keeping their own investment affordable. However, some franchisees conclude that they suffer the "worst of both worlds" feeling they are too restricted by corporate mandates and lack true independence. It is an assumption that small business are just franchisees, but the truth is many franchisers are also small businesses, Although considered to be a successful way of doing business, literature has proved that there is a high failure rate in franchising as well, especially in UK, where research indicates that out of 1658 franchising companies operating in 1984, only 601 remained in 1998, a mere 36%.

Retailers' Cooperative

A retailers' cooperative is a type of cooperative which employs economies of scale on behalf of its retailer members. Retailers' cooperatives use their purchasing power to acquire discounts from manufacturers and often share marketing expenses. It is common for locally owned grocery stores, hardware stores, and pharmacies to participate in retailers' cooperatives. Ace Hardware, True Value, and NAPA are examples of a retailers' cooperative.

Advantages

Many small businesses can be started at a low cost and on a part-time basis, while a person continues a regular job with an employer or provides care for family members in the home. In developing countries, many small businesses are sole-proprietor operations such as selling produce at a

market stall or preparing hot food to sell on the street, that provide a small income. In the 2000s, a small business is also well suited to Internet marketing; because, it can easily serve specialized niches, something that would have been more difficult prior to the Internet revolution which began in the late 1990s. Adapting to change is crucial in business and particularly small business; not being tied to the bureaucratic inertia associated with large corporations, small businesses can respond to changing marketplace demand more quickly. Small business proprietors tend to be in closer personal contact with their customers and clients than large corporations, as small business owners see their customers in person each week.

Small business in Bursa, Turkey. One of the claimed advantages of small business owners is the ability to serve market niches not served by mass production industries. Consider how few major corporations would be willing to deal the risks and uncertainty that small antique store deals with: buying and selling non-standardized items and making quick assessments of the value of rare items.

One study showed that small, local businesses are better for a local economy the introduction of new chain stores. By opening up new national level chain stores, the profits of locally owned businesses greatly decrease and many businesses end up failing and having to close. This creates an exponential effect. When one store closes, people lose their jobs, other businesses lose business from the failed business, and so on. In many cases, large firms displace just as many jobs as they create.

Independence is another advantage of owning a small business. A small business owner does not have to report to a supervisor or manager. In addition, many people desire to make their own decisions, take their own risks, and reap the rewards of their efforts. Small business owners have the satisfaction of making their own decisions within the constraints imposed by economic and other environmental factors. However, entrepreneurs have to work for very long hours and understand that ultimately their customers are their bosses.

Several organizations in the United States also provide help for the small business sector, such as the Internal Revenue Service's Small Business and Self-Employed One-Stop Resource. Small businesses (often carried out by family members) adjust quicker to the changing conditions; however, they are closed to the absorption of new knowledge and employing new labor from outside.

Challenges

Small businesses often face a variety of problems, some of which are related to their size. A frequent cause of bankruptcy is under capitalization. This is often a result of poor planning rather than economic conditions. It is a common "rule of thumb" that the entrepreneur should have

access to a sum of money at least equal to the projected revenue for the first year of business in addition to his or her anticipated expenses. For example, if the prospective owner thinks that he or she will generate $100,000 in revenues in the first year with $150,000 in start-up expenses, then he or she should have not less than $250,000 available. Failure to provide this level of funding for the company could leave the owner liable for all of the company's debt should he or she end up in bankruptcy court, under the theory of under capitalization.

In addition to ensuring that the business has enough capital, the small business owner must also be mindful of contribution margin (sales minus variable costs). To break even, the business must be able to reach a level of sales where the contribution margin equals fixed costs. When they first start out, many small business owners under price their products to a point where even at their maximum capacity, it would be impossible to break even. Cost controls or price increases often resolve this problem.

In the United States, some of the largest concerns of small business owners are insurance costs (such as liability and health), rising energy costs, taxes, and tax compliance. In the United Kingdom and Australia, small business owners tend to be more concerned with excessive governmental red tape.

Contracting fraud has been an ongoing problem for small businesses in the United States. Small businesses are legally obligated to receive a fair portion (23 percent) of the total value of all the government's prime contracts as mandated by the Small Business Act of 1953. Since 2002, a series of federal investigations have found fraud, abuse, loopholes, and a lack of oversight in federal small business contracting, which has led to the diversion of billions of dollars in small business contracts to large corporations.

Another problem for many small businesses is termed the 'Entrepreneurial Myth' or E-Myth. The mythic assumption is that an expert in a given technical field will also be expert at running that kind of business. Additional business management skills are needed to keep a business running smoothly. Some of this misunderstanding arises from the failure to distinguish between small business managers as entrepreneurs or capitalists. While nearly all owner-managers of small firms are obliged to assume the role of capitalist, only a minority will act as entrepreneur. The line between an owner-manager and an entrepreneur can be defined by whether or not their business is growth oriented. In general, small business owners are primarily focused on surviving rather than growing; therefore, not experiencing the five stages of the corporate life cycle (birth, growth, maturity, revival, and decline) like an entrepreneur would.

Another problem for many small businesses is the capacity of much larger businesses to influence or sometimes determine their chances for success. Business networking and social media has been used as a major tool by small businesses in the UK, but most of them just use a "scatter-gun" approach in a desperate attempt to exploit the market which is not that successful. Over half of small firms lack a business plan, a tool that is considered one of the most important factors for a venture's success. Business planning is associated with improved growth prospects. Funders and investors usually require a business plan. A plan also serves as a strategic planning document for owners and CEOs, which can be used as a "bible" for decision-making

An international trade survey indicated that the British share of businesses which are exporting rose from 32% in 2012 to 39% in 2013. Although this may seem positive, in reality the growth

is slow, as small business owners shy away from exporting due to actual and perceived barriers. Learning the basics of a foreign language could be the solution to open doors to new trade markets, it is a reality that not all foreign business partners speak English. China is stated to grow by 7.6% in 2013 and still sadly 95% of business owners who want to export to china have no desire and no knowledge to learn their local language.

Bankruptcy

When small business fails, the owner may file for bankruptcy. In most cases, this can be handled through a personal bankruptcy filing. Corporations can file bankruptcy, but if it is out of business and valuable corporate assets are likely to be repossessed by secured creditors, there is little advantage to going to the expense of a corporate bankruptcy. Many states offer exemptions for small business assets so they can continue to operate during and after personal bankruptcy. However, corporate assets are normally not exempt; hence, it may be more difficult to continue operating an incorporated business if the owner files bankruptcy. Researchers have examined small business failures in some depth, with attempts to model the predictability of failure.

Social Responsibility

Small businesses can encounter several problems related to engaging in corporate social responsibility, due to characteristics inherent in their size. Owners of small businesses often participate heavily in the day-to-day operations of their companies. This results in a lack of time for the owner to coordinate socially responsible efforts, such as supporting local charities or not-for-profit activities. Additionally, a small business owner's expertise often falls outside the realm of socially responsible practices, which contributing to a lack of participation. Small businesses also face a form of peer pressure from larger forces in their respective industries, making it difficult to oppose and work against industry expectations. Furthermore, small businesses undergo stress from shareholder expectations. Because small businesses have more personal relationships with their patrons and local shareholders, they must also be prepared to withstand closer scrutiny if they want to share in the benefits of committing to socially responsible practices or not.

Job quality

While small businesses employ over half the workforce in the US and have been established as a main driving force behind job creation, the quality of the jobs these businesses create has been called into question. Small businesses generally employ individuals from the Secondary labour market. As a result, in the U.S., wages are 49% higher for employees of large firms. Additionally, many small businesses struggle or are unable to provide employees with benefits they would be given at larger firms. Research from the U.S. Small Business Administration indicates that employees of large firms are 17% more likely to receive benefits including salary, paid leave, paid holidays, bonuses, insurance, and retirement plans. Both lower wages and fewer benefits combine to create a job turnover rate among U.S. small businesses that is three times higher than large firms. Employees of small businesses also must adapt to the higher failure rate of small firms, which means that they are more likely to lose their job due to the firm going under. In the U.S. 69% of small businesses last at least two years, but this percentage drops to 51% for firms reaching five years in operation. The U.S. Small Business Administration counts companies with as much

as $35.5 million in sales and 1,500 employees as "small businesses", depending on the industry. Outside government, companies with less than $7 million in sales and fewer than five hundred employees are widely considered small businesses.

Marketing

Although small business have close relationships with their existing customers, finding new customers and reaching new markets is a major challenge for small business owners. Small businesses typically find themselves strapped for time to do marketing, as they have to run the day-to-day aspects of the business. To create a continual stream of new business and find new clients and customers, they must work on marketing their business each week. Common marketing techniques for small business include business networking (e.g., attending Chamber of Commerce events or trade fairs), "word of mouth" promotion by existing customers, customer referrals, Yellow pages directories, television, radio, and outdoor ads (e.g., roadside billboards), print ads, and Internet marketing. TV ads can be quite expensive, so they are normally intended to create awareness of a product or service. Another means by which small businesses can advertise is through the use of "deal of the day" websites such as Groupon and Living Social. These Internet deals encourage customers to patronize small businesses.

	A	B	C	D	E
1	Keyword	Competition	Global Monti	Local Monthly Searches	Competition
2	virginia beach dentist	0.68	4400	3600	35,200
3	dental virginia beach	0.68	4400	3600	12,100
4	beach dental virginia beach	0.68	4400	3600	3,290
5	dentists in virginia beach	0.72	3600	2900	25,200
6	dentist in virginia beach	0.72	3600	2900	140,000

Example of keyword analysis based on market competition.

Many small business owners find internet marketing more affordable. Google AdWords and Yahoo! Search Marketing are two popular options of getting small business products or services in front of motivated web searchers. Successful online small business marketers are also adept at utilizing the most relevant keywords in their website content. Advertising on niche websites that are frequented by potential customers can also be effective, but with the long tail of the Internet, it can be time intensive to advertise on enough websites to garner an effective reach.

Creating a business website has become increasingly affordable with many do-it-yourself programs now available for beginners. A website can provide significant marketing exposure for small businesses when marketed through the Internet and other channels. Some popular services are WordPress, Joomla Squarespace, and EXAI . Social media has proven to be very useful in gaining additional exposure for many small businesses. Many small business owners use Facebook and Twitter as a way to reach out to their loyal customers to give them news about specials of the day or special coupons, generate repeat business and reach out to new potential clients. The relational nature of social media, along with its immediacy and twenty-four-hour presence lend intimacy to the relationships small businesses can have with their customers, while making it more efficient for them to communicate with greater numbers. Facebook ads are also a very cost-effective way for small businesses owners to reach a targeted audience with a very specific message. In addition to the social networking sites, blogs have become a highly effective way for small businesses to posi-

tion themselves as experts on issues that are important to their customers. This can be done with a proprietary blog and/or by using a back-link strategy wherein the marketer comments on other blogs and leaves a link to the small business' own website. Posting to a blog about the company's business or service area regularly can increase web traffic to a company website.

Marketing plan

- Market research – To produce a marketing plan for small businesses, research needs to be done on similar businesses, which should include desk research (done online or with directories) and field research. This gives an insight in the target group's behavior and shopping patterns. Analyzing the competitor's marketing strategies makes it easier for small business to gain market share.
- Marketing mix – Marketing mix is a crucial factor for any business to be successful. Especially for a small business, examining a competitor's marketing mix can be very helpful. An appropriate market mix, which uses different types of marketing, can help to boost sales.
- Product life cycle – After the launch of the business, crucial points of focus should be the growth phase (adding customers, adding products or services, and/or expanding to new markets) and working towards the maturity phase. Once the business reaches maturity stage, an extension strategy should be in place. Re-launching is also an option at this stage. Pricing strategy should be flexible and based on the different stages of the product life cycle.
- Promotion techniques – It is preferable to keep promotion expenses as low as possible. 'Word of mouth', 'email marketing', 'print-ads' in local newspapers etc. can be effective.
- Channels of distribution – Selecting an effective channel of distribution may reduce the promotional expenses as well as overall expenses for a small business.

Contribution to the Economy

In the US, small businesses (fewer than five hundred employees) account for more than half the non-farm, private GDP and around half the private sector employment. Regarding small business, the top job provider is those with fewer than ten employees, and those with ten or more but fewer than twenty employees comes in as the second, and those with twenty or more but fewer than one hundred employees comes in as the third (interpolation of data from the following references). The most recent data shows firms with fewer than twenty employees account for slightly more than 18% of the employment.

According to "The Family Business Review," "There are approximately seventeen million sole-proprietorship in the US. It can be argued that a sole-proprietorship (an unincorporated business owned by a single person) is a type of family business" and "there are twenty-two million small businesses (fewer than five hundred employees) in the US and approximately 14,000 big businesses." Also, it has been found that small businesses created the most new jobs in communities, "In 1979, David Birch published the first empirical evidence that small firms (fewer than 100 employees) created the most new jobs", and Edmiston claimed that "perhaps the greatest generator of interest in entrepreneurship and small business is the widely held belief that small businesses in the United States create most new jobs. The evidence suggests that small businesses indeed create

a substantial majority of net new jobs in an average year." Local businesses provide competition to each other and also challenge corporate giants. Of the 5,369,068 employer firms in 1995, 78.8 percent had fewer than ten employees, and 99.7 percent had fewer than five hundred employees.

Sources of Funding

Small businesses use various sources available for start-up capital:

Small businesses in Biloela, Central Queensland, Australia, 1949

- Self-financing by the owner through cash savings, equity loan on his or her home, and or other assets
- Loans or financial gifts from friends or relatives
- Grants from private foundations, government or other sources
- Private stock issue
- Forming partnerships
- Angel investors
- Loans from banks, credit unions, or other financial institutions
- Financial platforms such as LendingClub and OnDeck
- SME finance, including collateral-based lending and venture capital, given sufficiently sound business venture plans

Some small businesses are further financed through credit card debt—usually a poor choice, given that the interest rate on credit cards is often several times the rate that would be paid on a line of credit at a bank or a bank loan. Recent research suggests that the use of credit scores in small business lending by community banks is surprisingly widespread. Moreover, the scores employed tend to be the consumer credit scores of the small business owners rather than the more encompassing small business credit scores that include data on the firms as well as on the owners. Many owners seek a bank loan in the name of their business; however, banks will usually insist on a personal guarantee by the business owner.

In the United States, the Small Business Administration (SBA) runs several loan programs that may help a small business secure loans. In these programs, the SBA guarantees a portion of the

loan to the issuing bank, and thus, relieves the bank of some of the risk of extending the loan to a small business. The SBA also requires business owners to pledge personal assets and sign as a personal guarantee for the loan. The 8(a) Business Development Program assists in the development of small businesses owned and operated by African Americans, Hispanics, and Asians. Canadian small businesses can take advantage of federally funded programs and services.

On October 2010, Alejandro Cremades and Tanya Prive founded the first equity crowdfunding platform for small businesses in history as an alternative source of financing. The platform operates under the name of Rock The Post.

Business Networks and Advocacy Groups

Small businesses often join or come together to form organizations to advocate for their causes or to achieve economies of scale that larger businesses benefit from, such as the opportunity to buy cheaper health insurance in bulk. These organizations include local or regional groups such as Chambers of Commerce and independent business alliances, as well as national or international industry-specific organizations. Such groups often serve a dual purpose, as business networks to provide marketing and connect members to potential sales leads and suppliers, and also as advocacy groups, bringing together many small businesses to provide a stronger voice in regional or national politics. In the case of independent business alliances, promoting the value of locally owned, independent business (not necessarily small) through public education campaigns is integral to their work.

The largest regional small business group in the United States is the Council of Smaller Enterprises, located in Greater Cleveland. United Kingdom trade and Investment (www.ukti.gov.in) gives out research in different markets around the world, also research in program planning and promotional activities to exporters. The BEXA (British Exporters Association) role is to connect new exporters to expert services, it can provide details about regional export contacts, who could be made informally to discuss issues. Trade associations and all major banks could often provide links to international groups in foreign markets, some could also help set up joint venture, trade fairs etc.

A number of youth organizations, including 4-H, Junior Achievement, and Scouting have special interactive programs and training to help young people run their own small business under adult supervision.

Startup Company

A startup company (startup or start-up) is an entrepreneurial venture which is typically a newly emerged, fast-growing business that aims to meet a marketplace need by developing or offering an innovative product, process or service. A startup is usually a company such as a small business, a partnership or an organization designed to rapidly develop scalable business model. Often, startup companies deploy technologies, such as Internet, e-commerce, computers, telecommunications, or robotics. These companies are generally involved in the design and implementation of the innovative processes of the development, validation and research for target markets. While start-ups do not all

operate in technology realms, the term became internationally widespread during the dot-com bubble in the late 1990s, when a great number of Internet-based companies were founded.

Definition

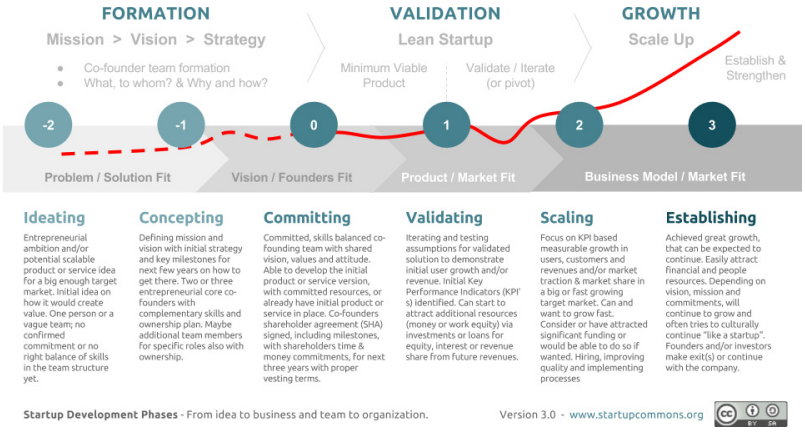
The exact definition of "startup" is widely debated. However at their core, most definitions are similar to what the U.S. Small Business Administration describes as a "business that is typically technology oriented and has high growth potential". The reference to "growth potential" may mean growth in revenues, number of employees, or both, or to the scaling up of a business to offer its goods or services to a wider or larger market. One popular definition by entrepreneur-mentor Steve Blank and Bob Dorf defines a startup as an "organization formed to search for a repeatable and scalable business model." In this case "search" is intended to differentiate established late-stage startups from traditional small businesses, such as a restaurant opening up a mature market. The latter implements a well-known existing business strategy whereas a startup explores an unknown or innovative business model in order to disrupt existing markets, as in the case of the online merchant Amazon, the "app"-based ride service Uber or the search engine Google, each of which pioneered the development of their respective market categories. Blank and Dorf add that startups are *not* smaller versions of larger companies: a startup is a *temporary* organization designed to *search* for a product/market fit and a business model, while in contrast, a large company is a *permanent* organization that has already achieved a product/market fit and is designed to *execute* a well-defined, fully validated, well-tested, proven, verified, stable, clear, unambiguous, repeatable and scalable business model. Blank and Dorf further say that a startup essentially goes from failure to failure in an effort to learn from each failure and discover what does not work in the process of searching for a repeatable, high growth business model.

Paul Graham states that "a startup is a company designed to grow fast. Being newly founded does not in itself make a company a startup. Nor is it necessary for a startup to work on technology, or take venture funding, or have some sort of "exit". The only essential thing is growth. Everything else we associate with startups follows from growth." Graham added that an entrepreneur starting a startup is committing to solve a harder type of problem than ordinary businesses do. "You're committing to search for one of the rare ideas that generates rapid growth." Aswath Damodaran states that the value of a startup firm "rests entirely on its future growth potential." His definition emphasizes the stage of development rather than the structure of the company or its respective industry. Consequently, he attributes certain characteristics to a startup which include, but are not limited to, its lack of history and past financial statements, its dependency on private equity, and its statistically small rate of survival.

Evolution

Startup companies can come in all forms and sizes. Some of the critical tasks are to build a co-founder team to secure key skills, know-how, financial resources and other elements to conduct research on the target market. Typically, a startup will begin by building a first minimum viable product (MVP), a prototype, to validate, assess and develop the new ideas or business concepts. In addition, startups founders do research to deepen their understanding of the ideas, technologies or business concepts and their commercial potential. A Shareholders' agreement (SHA) is often agreed early on to confirm the commitment, ownership and contributions of the founders and investors and to deal

with the intellectual properties and assets that may be generated by the startup. Business models for startups are generally found via a "bottom-up" or "top-down" approach. A company may cease to be a startup as it passes various milestones, such as becoming publicly traded on the stock market in an Initial Public Offering (IPO), or ceasing to exist as an independent entity via a merger or acquisition. Companies may also fail and cease to operate altogether, an outcome that is very likely for startups, given that they are developing disruptive innovations which may or may not function as expected and for which there may or may not be market demand, even when the product or service is finally developed. As well, given that startups operate in high-risk sectors, it can be hard to attract investors to support the product/service development or attract buyers.



Startup development phases

The size and maturity of the startup ecosystem where the startup is launched and where it grows have an effect on the volume and success of the startups. The startup ecosystem consists of the individuals (entrepreneurs, venture capitalists, Angel investors, mentors); institutions and organizations (top research universities and institutes, business schools and entrepreneurship programs operated by universities and colleges, non-profit entrepreneurship support organizations, government entrepreneurship programs and services, Chambers of commerce) business incubators and business accelerators and top-performing entrepreneurial firms and start-ups. A region with all of these elements is considered to be a "strong" entrepreneurship ecosystem. Some of the most famous entrepreneurial ecosystems are Silicon Valley in California, where major computer and Internet firms and top universities such as Stanford University create a stimulating start-up environment, Boston (where Massachusetts Institute of Technology is located) and Singapore, home of INSEAD (a top business school), numerous leading entrepreneurs and start-up firms.

Investors are generally most attracted to those new companies distinguished by their strong co-founding team, a balanced "risk/reward" profile (in which high risk due to the untested, disruptive innovations is balanced out by high potential returns) and "scalability" (the likelihood that a start-up can expand its operations by serving more markets or more customers). Attractive start-ups generally have lower "bootstrapping" (self-funding of startups by the founders) costs, higher risk, and higher potential return on investment. Successful startups are typically more scalable than an established business, in the sense that the startup has the potential to grow rapidly with a limited investment of capital, labor or land. Timing has often been the single most important factor for biggest startup successes, while at the same time it's identified to be one of the hardest

things to master by many serial entrepreneurs and investors.

Startups have several options for funding. Venture capital firms and angel investors may help startup companies begin operations, exchanging seed money for an equity stake in the firm. Venture capitalists and angel investors provide financing to a range of startups (a portfolio), with the expectation that a very small number of the start-ups will become viable and make money. In practice though, many startups are initially funded by the founders themselves using "bootstrapping", in which loans or monetary gifts from friends and family are combined with savings and credit card debt to finance the venture. Factoring is another option, though it is not unique to startups. Other funding opportunities include various forms of crowdfunding, for example equity crowdfunding, in which the startup seeks funding from a large number of individuals, typically by pitching their idea on the Internet

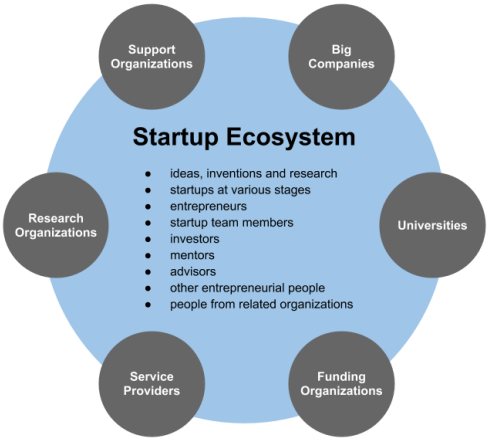
Business Partnering

Startups usually need to form partnerships with other firms to enable their business model to operate. To become attractive to other businesses, startups need to align their internal features, such as management style and products with the market situation. In their 2013 study, Kask and Linton develop two ideal profiles, or also known as configurations or archetypes, for startups that are commercializing inventions. The *inheritor* profile calls for management style that is not too entrepreneurial (more conservative) and the startup should have an incremental invention (building on a previous standard). This profile is set out to be more successful (in finding a business partner) in a market that has a dominant design (a clear standard is applied in this market). In contrast to this profile is the *originator* which has a management style that is highly entrepreneurial and in which a radical invention or a disruptive innovation (totally new standard) is being developed. This profile is set out to be more successful (in finding a business partner) in a market that does not have a dominant design (established standard). New startups should align themselves to one of the profiles when commercializing an invention to be able to find and be attractive to a business partner. By finding a business partner a startup will have greater chances to become successful.

Culture

Startup founders often have a more casual or offbeat attitude in their dress, office space and marketing, as compared to traditional corporations. Startup founders in the 2010s may wear hoodies, sneakers and other casual clothes to business meetings. Some startups have recreational facilities in their offices, such as pool tables, ping pong tables and pinball machines, which are used to create an attractive, fun work environment, stimulate team development and team spirit, and encourage creativity. Some of the casual approaches, such as the use of "flat" organizational structures, in which regular employees can talk with the founders and chief executive officers informally, are done to promote efficiency in the workplace, which is needed to get their business off the ground. In a 1960 study, Douglas McGregor stressed that punishments and rewards for uniformity in the workplace are not necessary, because some people are born with the motivation to work without incentives. Some startups do not use a strict command and control hierarchical structure, with executives, managers, supervisors and employees. Some startups offer employees stock options, to increase their "buy in" into the start up (as these employees stand to gain if the company does

well). This removal of stressors allows the workers and researchers in the startup to focus less on the work environment around them, and more on achieving the task at hand, giving them the potential to achieve something great for their company.



An strong startup ecosystem is vital to a thriving local entrepreneurial culture.

This culture today has evolved to include larger companies aiming at acquiring the bright minds driving startups. Google, amongst other companies, has made strides to make purchased startups and their workers feel at home in their offices, even letting them bring their dogs to work. The main goal behind all changes to the culture of the startup workplace, or a company hiring workers from a startup to do similar work, is to make the people feel as comfortable as possible so they can have the best performance in the office. Some companies even try to hide how large they are to capture a particular demographic, as is the case with Heineken recently.

Co-Founders

Co-founders are people involved in the initial launch of startup companies. Anyone can be a co-founder, and an existing company can also be a co-founder, but frequently co-founders are entrepreneurs, engineers, hackers, venture capitalists, web developers, web designers and others involved in the ground level of a new, often high-tech, venture. The language of securities regulation in the United States considers co-founders to be “promoters” under Regulation D. The U.S. Securities and Exchange Commission definition of “Promoter” includes: (i) Any person who, acting alone or in conjunction with one or more other persons, directly or indirectly takes initiative in founding and organizing the business or enterprise of an issuer; However, not every promoter is a co-founder. In fact, there is no formal, legal definition of what makes somebody a co-founder. The right to call oneself a co-founder can be established through an agreement with one’s fellow co-founders or with permission of the board of directors, investors, or shareholders of a startup company. When there is no definitive agreement (like SHA), disputes about who the co-founders are can arise.

Startup Investing

Startup investing is the action of making an investment in an early-stage company (the startup company). Beyond founders’ own contributions, some startups raise additional investment at

some or several stages of their growth. Not all startups trying to raise investments are successful in their fundraising. The solicitation of funds became easier for startups as result of the JOBS Act. Prior to the advent of equity crowdfunding, a form of online investing that has been legalized in several nations, startups did not advertise themselves to the general public as investment opportunities until and unless they first obtained approval from regulators for an initial public offering (IPO) that typically involved a listing of the startup's securities on a stock exchange. Today, there are many alternative forms of IPO commonly employed by startups and startup promoters that do not include an exchange listing, so they may avoid certain regulatory compliance obligations, including mandatory periodic disclosures of financial information and factual discussion of business conditions by management that investors and potential investors routinely receive from registered public companies.

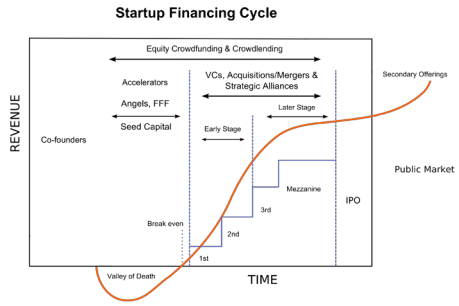


Diagram of the typical financing cycle for a startup company.

Evolution of Investing

After the Great Depression, which was blamed in part on a rise in speculative investments in unregulated small companies, startup investing was primarily a word of mouth activity reserved for the friends and family of a startup's co-founders, business angels and Venture Capital funds. In the United States this has been the case ever since the implementation of the Securities Act of 1933. Many nations implemented similar legislation to prohibit general solicitation and general advertising of unregistered securities, including shares offered by startup companies. In 2005, a new Accelerator investment model was introduced by Y Combinator that combined fixed terms investment model with fixed period intense bootcamp style training program, to streamline the seed/early stage investment process with training to be more systematic.

Following Y Combinator, many accelerators with similar models have emerged around the world. The accelerator model have since become very common and widely spread and they are key organizations of any Startup ecosystem. Title II of the Jumpstart Our Business Startups Act (JOBS Act), first implemented on September 23, 2013, granted startups in and startup co-founders or promoters in US. the right to generally solicit and advertise publicly using any method of communication on the condition that only accredited investors are allowed to purchase the securities. However the regulations affecting equity crowdfunding in different countries vary a lot with different levels and models of freedom and restrictions. In many countries there are no limitations restricting general public from investing to startups, while there can still be other types of restrictions in place, like limiting the amount that companies can seek from investors. Due to positive development and growth of crowdfunding, many countries are actively updating their regulation in regards to crowdfunding.

Investing Rounds

When investing in a startup, there are different types of stages in which the investor can participate. The first round is called seed round. The seed round generally is when the startup is still in the very early phase of execution when their product is still in the prototype phase. At this level angel investors will be the ones participating. The next round is called Series A. At this point the company already has traction and may be making revenue. In Series A rounds venture capital firms will be participating alongside angels or super angel investors. The next rounds are Series B, C, and D. These three rounds are the ones leading towards the IPO. Venture capital firms and private equity firms will be participating.

Investing Online

The first known investment-based crowdfunding platform for startups was launched in Feb. 2010 by Grow VC, followed by the first US. based company ProFounder launching model for startups to raise investments directly on the site, but ProFounder later decided to shut down its business due regulatory reasons preventing them from continuing, having launched their model for US. markets prior to JOBS Act. With the positive progress of the JOBS Act for crowd investing in US., equity crowdfunding platforms like SeedInvest and CircleUp started to emerge in 2011 and platforms such as investiere, Companisto and Seedrs in Europe and OurCrowd in Israel. The idea of these platforms is to streamline the process and resolve the two main points that were taking place in the market. The first problem was for startups to be able to access capital and to decrease the amount of time that it takes to close a round of financing. The second problem was intended to increase the amount of deal flow for the investor and to also centralize the process.

Internal Startups

Large or well-established companies often try to promote innovation by setting up "internal startups", new business divisions that operate at arm's length from the rest of the company. Examples include Bell Labs, a research unit within Bell Corporation and Target Corporation (which began as an internal startup of the Dayton's department store chain) and threedegrees, a product developed by an internal startup of Microsoft.

Re-Starters

Failed entrepreneurs, or restarters, who after some time restart in the same sector with more or less the same activities, have an increased chance of becoming a better entrepreneur. However, some studies indicate that restarters are more heavily discouraged in Europe than in the US.

Trends and Obstacles

If a company's value is based on its technology, it is often equally important for the business owners to obtain intellectual property protection for their idea. The newsmagazine *The Economist* estimated that up to 75% of the value of US public companies is now based on their intellectual property (up from 40% in 1980). Often, 100% of a small startup company's value is based on its intellectual property. As such, it is important for technology-oriented startup companies to develop a sound strategy for protecting their intellectual capital as early as possible. Startup companies, particularly those associated with new technology, sometimes produce huge returns to their creators

and investors—a recent example of such is Google, whose creators became billionaires through their stock ownership and options. However, the failure rate of startup companies is very high. One common reason for failure is that startup companies can run out of funding, without securing their next round of investment or before becoming profitable enough to pay their staff. When this happens, it can leave employees without paychecks. Sometimes these companies are purchased by other companies, if they are deemed to be viable, but oftentimes they leave employees with very little recourse to recoup lost income for worked time.

Although there are startups created in all types of businesses, and all over the world, some locations and business sectors are particularly associated with startup companies. The internet bubble of the late 1990s was associated with huge numbers of internet startup companies, some selling the technology to provide internet access, others using the internet to provide services. Most of this startup activity was located in the most well known startup ecosystem - Silicon Valley, an area of northern California renowned for the high level of startup company activity:

The spark that set off the explosive boom of "Silicon startups" in Stanford Industrial Park was a personal dispute in 1957 between employees of Shockley Semiconductor and the company's namesake and founder, Nobel laureate and co-inventor of the transistor William Shockley... (His employees) formed Fairchild Semiconductor immediately following their departure...

After several years, Fairchild gained its footing, becoming a formidable presence in this sector. Its founders began leaving to start companies based on their own latest ideas and were followed on this path by their own former leading employees... The process gained momentum and what had once began in a Stanford's research park became a veritable startup avalanche... Thus, over the course of just 20 years, a mere eight of Shockley's former employees gave forth 65 new enterprises, which then went on to do the same...

Start-up advocates are also trying to build a community of tech start-ups in New York City with organizations like NY Tech Meet Up and Built in NYC. In the early 2000s, the patent assets of failed startup companies are being purchased by what are derogatorily known as patent trolls, who then take the patents from the companies and assert those patents against companies that might be infringing the technology covered by the patent.

Teampreneurship

Teampreneurship is a form of entrepreneurship in which an individual entrepreneur works and learns in a team that is composed of peers who are also entrepreneurs. These individuals are called teampreneurs.

The concept was invented by Opetusneuvos (Counselor of Education) and Emeritus Head-Coach of JAMK University of Applied Science's Tiimiakatemia Johannes Partanen (Finland). Teampreneurship was originally invented to be used in JAMK's Bachelor of Business Administration (BBA) studies that aimed to educate entrepreneurs. The fundamental idea behind teampreneurship is that entrepreneurs can team with other entrepreneurs. The actual BBA programme is completed in JAMK, working and completing one's studies at the same time.

Tiimiakatemia's teampreneurship can be used in vocational studies or in business.

According to Mr. Partanen, teampreneurship speeds up learning. For example, in 2010, 37% of JAMK Tiimiakatemia's students worked as entrepreneurs after studies and 47% of them had become entrepreneurs within two years of graduation.

Tiimiakatemia's teampreneurship has been influenced by ideas and theories on learning organizations, self-managed learning, leadership and team building practices (mainly from USA) and socioconstructivism.

Partus Ltd, a consulting and education company from Central Finland, is one of the concept's main promoters. The company has full rights to use and distribute the *teampreneur* and *tiimiyrittäjä* trademarks owned by TA Network Ltd.

Teampreneurship was deployed in 2013 in JAMK University of Applied Science (Finland; BBA studies), TAMK University of Applied Sciences (Finland; both BBA and master's degree studies), Turku University of Applied Sciences (Finland; university level studies on beauty care, aka "Estonomi" in Finland), University of Debrecen (Hungary; Master's Degree studies), University of Mondragon (Spain; both BBA and master's degree studies) and Team Academie Nederlands (Netherlands; BBA studies).

Sustainopreneurship

Sustainopreneurship (a portmanteau of sustainability and entrepreneurship) is the use of business organizing to solve problems related to social and environmental sustainability. It is a *"business with a cause"* - where world problems are turned into business opportunities by deployment of sustainability innovations. It is similar to social entrepreneurship.

Conceptual Development

The business world has been nominated as a premier force for creating a sustainable world, especially when acting as a source of innovation and creativity - e. g. as Robinson (2004:378) puts it:

> *"In addition to integrating across fields, sustainability must also be integrated across sectors or interests. It is clear that governments alone have neither the will nor the capability to accomplish sustainability on their own. The private sector, as the chief engine of economic activity on the planet, and a major source for creativity, innovation and entrepreneurship, must be involved in trying to achieve sustainability."*

Sustainopreneurship is a candidate to be the accentuating factor to give even more leverage to forces emerging from world of business activities to contribute to sustainability. The concept of sustainopreneurship was first introduced as a term in 2000 where it was predominantly related to the proactive change management approaches associated with process adjustment with increased respect to the environment. The phenomenon developed with publications in 2003, and further evolved and was tentatively defined in 2006 by Anders Abrahamsson. This tentative definition was empirically tested in his Master thesis, where the enactive research process confirmed that

the definition stood the test contrasting it towards the auto-ethnographical empirical material. A paper to identify future research challenges was made beyond this in 2007, and developed further with a book chapter published in September 2008.

In general, the entrepreneurial discourse has opened up to move beyond a strictly economic phenomenon, rather than being perceived primarily as a social process at large. Preceding the conceptual formation were two traces of social entrepreneurship and eco-preneurship, dealing primarily with the social and ecological dimensions of sustainability. Primary associations with social entrepreneurship have also been establishing not-for-profit venturing and charities to innovatively address and solve social problems, whereas ecopreneurship has been primarily focused on solving environmental problems.

Both these traces of conceptual development are taken beyond, merge and integrate into the suggested conceptual construct at hand, where distinctions are made from both of these concepts – sustainopreneurial processes taking place institutionally through for-profit organizing, but not with profit as its main driving force. Sustainopreneurial venturing is done in a holistic manner that meets both ecological and social challenges simultaneously with regard to both purpose and process.

Three Main Dimensions

The definition of sustainopreneurship needs to be highlighted by three distinguishing dimensions with all three being simultaneously present in the applied (inter)action it reflects. The first is oriented towards *why* - its purpose and motive. The second and third are reflecting two *how*-related dimensions - its process.

Sustainopreneurship consciously sets out to find and/or create innovations to solve sustainability-related problems

The conscious mission that guides the action, especially in the nascent '-preneurial' stage before venturing forms and formalizes into an institutionalized business entity, is to deliberately find practical and innovative solutions to problems related to the sustainability agenda. This is the main key to distinguish this category of entrepreneurial activity and behaviour labelled sustainopreneurship from generic entrepreneurial activity: the cause-oriented intention that places the core motive, purpose and driving-force of the business activities. To identify and further grasp what is meant by sustainability problems, central sources in the global sustainable development discourse are identified, which guide us to what is meant practically and operationally by sustainability in action. The outcome of diverse sources are summarized in this list of sustainability-related problems, determined by the political action plan documented in Agenda 21, the Millennium Declaration defining the Millennium Development Goals, both agreed at the Millennium Summit in New York 2000, and the WSSD Plan of Implementation decided upon at the World Summit on Sustainable Development in Johannesburg 2002. This list, derived and synthesized from these sources, lines up areas with associated problems to solve, goals to reach and values to create:

- Poverty
- Water and sanitation

- Health
- Education/illiteracy
- Sustainable production and consumption patterns
- Climate change and energy systems
- Chemicals
- Urbanization
- Ecosystems, biological diversity and land use
- Utilization of sea resources
- Food and agriculture
- Trade justice
- Social stability, democracy and good governance'
- Peace and security

Sustainopreneurship Means to Get Solutions to the Market Through Creative Organizing

The line-up above could make one easily depressed. But, a fundamental attitude to acquire and maintain when this list of sustainability-related problems is compiled and then considered is to avoid falling into disempowerment and despair. It is of core importance to take the agenda as entrepreneurial *challenges* – to view problems as *possibilities*, obstacles as *opportunities*, and resistance as a *resource*, whatever the nature of the resistance. If the solution is generated by creativity, it is equally important to take it to the market in a creative and innovative way. In this dimension there is nothing that really differs from the generic entrepreneurial description I subscribe to, but this comes natural since sustainopreneurship is a conceptual extension and development from the social phenomenon named entrepreneurship, and thus inherits one of its perceived key dimensions, 'entrepreneurship as creative organizing'. The market is used as well, not society primarily, since it implies business establishment – a sustainability business that still knows its place and role in the holarchy mentioned earlier. Bringing something to the market at the same time brings it to society and our shared physical environment.

Sustainopreneurship in Process Adds Sustainability Value with Respect for Life Support Systems

The awareness that the (economic) market is an embedded sub-system in the "socio-sphere" that is in turn a part of the 'bio-sphere' is made explicit. This awareness naturally and self-evidently makes the sustainopreneurial team maximize harmony with life support systems in the process. With joy and pride the epitome of the generic definition of "sustainable development" lives in business venturing. In short – living the generic definition of sustainable development as defined by WCED, with respect to the needs of present and future stakeholders, keeping the holistic worldview and making it guide everyday (inter)action.

Sustainable vs. Sustainability Entrepreneurship

With these dimensions clarified and distinctions made a common conceptual vagueness or lack of clarity needs to be addressed, where a strong need to distinguish clearly between sustainable, vs.'sustainability entrepreneurship is identified. From this point of view, a very important distinction with the concept formed is claimed - sustainability entrepreneurship as in the concept sustainopreneurship; the use of entrepreneurial activity in a determined action orientation towards solving a sustainability-related problem with (creative) business organizing as a means to solve the problem(s) – business with a cause: to turn business activity from a part of the problem to a part of the solution. Sustainable entrepreneurship is just a generic entrepreneurial process that takes into consideration the boundaries set by sustainability, and does not address where to and why, the destination, the purpose or the aim of the venture. The strategic intent and the business idea in itself are not related to sustainability *per se,* sustainability just being an attachment to the entrepreneurial process. The second and third dimensions are represented, but not the first. Sustainability entrepreneurship, in contrast, takes as its root of existence and strategic aim to solve a sustainability-related problem. This means that all three dimensions are simultaneously present: to take a sustainability innovation to the market through creative organizing with respect for life-supporting systems in the process.

Future Development

Given its recent date, there is a need for future research, as mentioned above. Main findings here are that conceptually, a deeper analysis is needed to be conducted with a nuanced and detailed taxonomy and framework created of sustainability innovations, the core of sustainopreneurship, primarily by cataloging and categorizing case stories. It is also needed to make a more detailed description to relate sustainopreneurship to other concepts in the wider, general idea-sphere of the "business case of sustainability", in the contemporary plethora of "buzz-words", approaches, methods and acronyms that already exists – and in this context also to motivate why this concept adds value.

It has been recommended, though, to keep the research applied, to identify obstacles and institutional barriers, and how to overcome them; i. e. facilitating factors for sustainopreneurship, researching prospective tools, enablers and approaches. Appropriate areas and domains for sustainopreneurship applied are recommended to be digested. Research methods recommended are Enactive Research and Open Space Technology, since they add instant value among stakeholders, and in themselves naturally builds arenas where sustainopreneurship evolves and proliferates. For progress, beyond these "how"-related pointers, the key is to single out "the big questions", getting answers through collaborative, collective dialogue and conversation, with an explicit interaction and results orientation. Issues and topics have been formulated and outlined, where it is of striking importance with an intention to attract authentic forces potentially hearing this call of exploring the phenomenon further, with the purpose to collapse the degrees of separation in between the stakeholders of the sustainopreneurial concept - in idea, reflective practice and applied interaction to generate collective and collaborative wisdom for a deeper understanding of the concept. An association with this purpose is in its interim stages, ÆREAS(i).

Other peer-reviewed papers that connect sustainability and entrepreneurship include Leveraging Information Technology, Social Entrepreneurship, and Global Collaboration for Just Sustainable Development by Pearce, Grafman, Colledge and Legg.

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Classification of Entrepreneurship

Contemporary times have seen a surge in the emergence of small individual businesses. Entrepreneurship can be classified on the basis of the aim of the enterprise and the methodologies employed to achieve it. The classifications of entrepreneurship explicated are social entrepreneurship, knowledge entrepreneurship, creative entrepreneurship and corporate entrepreneurship.

Social Entrepreneurship

Social entrepreneurship is the attempt to draw upon business techniques and private sector approaches to find solutions to social, cultural, or environmental problems. This concept may be applied to a variety of organizations with different sizes, aims, and beliefs. Conventional entrepreneurs typically measure performance in profit, revenues and increases in stock prices, but social entrepreneurs also take into account a positive "return to society". Social entrepreneurship typically attempts to further broad social, cultural, and environmental goals often associated with the voluntary sector. At times, profit also may be a consideration for social enterprises, but not as an end in itself, but rather as a means to further the social or cultural goals of the organization. In the 2010s, social entrepreneurship is facilitated by the use of the Internet, which helps people who are not geographically close yet who share the same goals to collaborate to achieve social goals and facilitates the dissemination of information.

Modern Definition

There are continuing arguments over which individuals can be defined as social entrepreneurs. Thus far, there has been no consensus on the definition of social entrepreneurship, as so many different sorts of fields and disciplines are associated with social entrepreneurship. Philanthropists, social activists, environmentalists, and other socially oriented practitioners are referred to as social entrepreneurs. The fact that social entrepreneurs fall under various career types is part of the reason it is difficult to determine who is truly a social entrepreneur. David Bornstein has even used the term "social innovator" interchangeably with social entrepreneur, due to the creative, non-traditional strategies that many social entrepreneurs use. For a clearer definition of what social entrepreneurship entails, it is necessary to set the function of social entrepreneurship apart from other voluntary sector and charity-oriented activities and identify the boundaries within which social entrepreneurs operate. Some have advocated restricting the term to founders of organizations that primarily rely on earned income–meaning income earned directly from paying consumers. Others have extended this to include contracted work for public authorities, while still others include grants and donations.

Social entrepreneurship in modern society offers an altruistic form of entrepreneurship that focuses on the benefits that society may reap. Simply put, entrepreneurship becomes a social endeavor when it transforms social capital in a way that affects society positively. It is viewed as advantageous because the success of social entrepreneurship depends on many factors related to social impact that traditional corporate businesses do not prioritize. Social entrepreneurs recognize immediate social problems, but also seek to understand the broader context of an issue that crosses disciplines, fields, and theories. Gaining a larger understanding of how an issue relates to society allows social entrepreneurs to develop innovative solutions and mobilize available resources to affect the greater global society. Unlike traditional corporate businesses, social entrepreneurship ventures focus on maximizing gains in social satisfaction, rather than maximizing profit gains. Both private and public agencies worldwide have had billion-dollar initiatives to empower deprived communities and individuals. Such support from organizations in society, such as government-aid agencies or private firms, may catalyze innovative ideas to reach a larger audience.

Prominent individuals associated with the term include Pakistani Akhter Hameed Khan and Bangladeshi Muhammad Yunus. Yunus was the founder of Grameen Bank, which pioneered the concept of microcredit for supporting innovators in multiple developing countries in Asia, Africa, and Latin America. He received a Nobel Peace Prize for his efforts. Others, such as former Indianapolis mayor Stephen Goldsmith addressed social efforts on a local level by using the private sector to provide city services.

History

Social entrepreneurship is distinct from the concept of entrepreneurship, yet still shares several similarities with the classic concept. Jean-Baptiste Say, a French economist, defined an entrepreneur as a person who "undertakes" an idea and shifts perspectives in a way that it alters the effect that an idea has on society. An entrepreneur is further defined by Say as someone who "shifts economic resources out of an area of lower and into an area of higher productivity and greater yield." The difference between "entrepreneurship" and "social entrepreneurship", however, stems from the purpose of a creation. Social entrepreneurs seek to transform societies at large, rather than transforming their profit margin, as classic entrepreneurs typically seek to do. Social entrepreneurs use a variety of resources to bring societies into a better state of well-being.

The concept of "social entrepreneurship" is not a novel idea, but it recently has become more popular among society and academic research, notably after the publication of "The Rise of the Social Entrepreneur" by Charles Leadbeater. Many activities related to community development and higher social purpose fall within the modern definition of social entrepreneurship. Despite the established definition nowadays, social entrepreneurship remains a difficult concept to define, since it may be manifested in multiple forms. A broad definition of the concept allows interdisciplinary research efforts to understand further and constantly challenge the notion behind social entrepreneurship. No matter in which sector of society certain organizations are (i.e. corporations or unincorporated associations and societies), social entrepreneurship focuses on the social impact that an endeavor carries. Whether social entrepreneurship is altruistic or not is less important than the effect it has on society.

The terms *social entrepreneur* and *social entrepreneurship* were used first in the literature in 1953 by H.Bowen on his book "Social Responsibilities of the Businessman". The terms came into

widespread use in the 1980s and 1990s, promoted by Bill Drayton, Charles Leadbeater, and others. From the 1950s to the 1990s Michael Young was a leading promoter of social entrepreneurship and in the 1980s, was described by Professor Daniel Bell at Harvard as 'the world's most successful entrepreneur of social enterprises' because of his role in creating more than sixty new organizations worldwide, including the School for Social Entrepreneurs (SSE) which exists in the UK, Australia, and Canada and which supports individuals to realize their potential and to establish, scale, and sustain, social enterprises and social businesses. Another notable British social entrepreneur is Andrew Mawson OBE, who was given a peerage in 2007 because of his regeneration work including the Bromley by Bow Centre in East London.

Although the terms are relatively new, social entrepreneurs and social entrepreneurship may be found throughout history. A list of a few noteworthy people whose work exemplifies the modern definition of "social entrepreneurship" includes Florence Nightingale, founder of the first nursing school and developer of modern nursing practices; Robert Owen, founder of the cooperative movement; and Vinoba Bhave, founder of India's Land Gift Movement. During the nineteenth and twentieth centuries some of the most successful social entrepreneurs effectively straddled the civic, governmental, and business worlds. Such pioneers promoted ideas that were taken up by mainstream public services in welfare, schools, and health care.

Current Practice

Major Organizations

Groups focused on social entrepreneurship may be divided into several categories: community-based enterprises, socially responsible enterprises, social services industry professionals, and socio-economic enterprises. Community-based enterprises are based on the social ventures of an entire community that uses its culture and capital to empower itself as an entire enterprise. Socially responsible enterprises focus on creating sustainable development through their initiatives that focus mostly on societal gains. Social service industry professionals work specifically in the sector of social services to expand social capital for different individuals, communities, and organizations. Socio-economic enterprises include corporations that balance earning profits and nonprofit social change for communities. In addition, there are organizations dedicated to empowering social entrepreneurs, connecting them with mentors, strengthening their enterprise models, and preparing them for capital investments. These accelerators help take social entrepreneurs to global scale.

One well-known contemporary social entrepreneur is Muhammad Yunus, who founded the Grameen Bank in 1976. He is known as the "father of microcredit," and established the microfinance movement, which aims to help millions of people rural communities access small loans. For his work, he was awarded a Nobel Peace Prize in 2006. The work that Yunus did through Grameen Bank has been described as a major influence on later social entrepreneurs. Larger countries in Europe and South America have tended to work more closely with public organizations at both the national and local level.

Types

In *The Power of Unreasonable People*, John Elkington and Pamela Hartigan describe social en-

trepreneurs' business structures as falling under three different models, applicable in different situations and economic climates:

1. *The Leveraged Non-Profit*: This business model leverages resources in order to respond to social needs. Leveraged non-profits make innovative use of available funds, in order to respond to a need. These leveraged non-profits are more traditional ways of dealing with issues, though are distinguished by their innovative approaches.

2. *The Hybrid Non-Profit*: This organizational structure can take on a variety of forms, but is distinctive because the hybrid non-profit is willing to use profit to sustain its operations. Hybrid non-profits are often created to deal with government failures or market failures, as they generate revenue to sustain the operation outside of loans, grants, and other forms of traditional funding.

3. *The Social Business Venture*: These models are set up as businesses designed to create change through social means. Social business ventures evolved through a lack of funding. Social entrepreneurs in this situation were forced to become for-profit ventures.

There are also hybrid profit models, where a conventional business invests some portion of its profits on socially, culturally or environmenally beneficial activities. The term "Philanthropreneurship" has been applied to this type of activity. Corporate employees can also engage in social entrepreneurship, which may or may not be officially sanctioned by the company. This has been described as corporate social entrepreneurship.

International Presence

Organizations such as Ashoka, the Skoll Foundation, the Omidyar Network, the Schwab Foundation for Social Entrepreneurship, Athgo, New Profit Inc., National Social Entrepreneurship Forum, Echoing Green, and the Global Social Benefit Institute among others, focus on highlighting these hidden change-makers who are scattered throughout the world, and providing various levels of resources to advance their initiatives.

The North American organizations tend to have a strongly individualistic stance focused on a handful of exceptional leaders. For example, The Skoll Foundation, created by eBay's first president, Jeff Skoll, makes capacity-building "mezzanine level" grants to social entrepreneurial organizations that already have reached a certain level of effectiveness.

Role of Technology

The Internet and social networking websites have been pivotal resources for the success and collaboration of many social entrepreneurs. In the twenty-first century, the Internet has become especially useful in disseminating information in short amounts of time. In addition to this, the Internet allows for the pooling of design resources using open source principles. These media allow ideas to be heard by broader audiences, help networks and investors to develop globally, and to achieve their goals with little or no start-up capital. For example, the rise of open-source appropriate technology as a sustainable development paradigm enables people all over the world to collaborate on solving local problems just as open source software development leverages collaboration.

Public Opinion

Controversy

Many initiatives carried out with social entrepreneurs while innovative, have had problems becoming sustainable and effective initiatives that ultimately are able to branch out and reach the larger society as a whole (versus a small community or group of people). Studies over the qualities encompassed in a social entrepreneur have shown that very few individuals possess the talent and skills of entrepreneurs with a primarily socially motivated outlook. Thus, compromises in social initiatives developed, often do not reach large audiences. Since the concept of social entrepreneurship has been popularized only recently, some advocates suggest that there needs to be some standardization of the process in scaling up social endeavors to increase impact across the globe.

A need for policymakers around the globe to understand social initiatives further is useful in increasing sustainability, effectiveness, and efficiency. Involvement and collaboration between private corporations and government agencies allow for increased monetary gain for carrying out initiatives, increased accountability on both ends, and increased connections with communities, individuals, or agencies in need. For example, private organizations or nonprofit organizations have tackled unemployment issues in communities in the past. Only short-term solutions are presented, however, or solutions are unable to scale up to a larger degree in order to maximize the number of people affected. Government policies in the financial sector are able to tackle such a large issue; however, the little collaboration that has occurred between the two modes that serve society has stagnated the effectiveness of social entrepreneurship. This stagnation primarily rests in the motives and goals of social enterprises and of those in policy-making. Those in policy-making naturally tend to have different priorities than social entrepreneurs, resulting in slow growth and expansion of social initiatives.

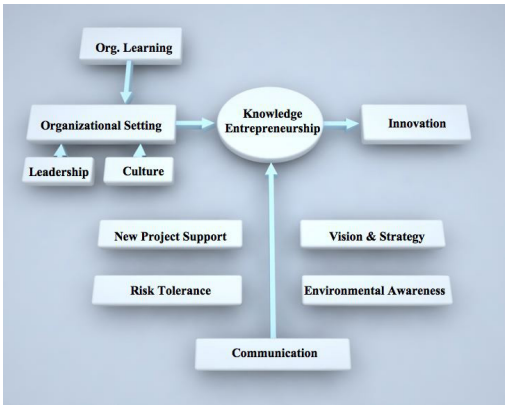
Since social entrepreneurship has only recently started to gain momentum, current social entrepreneurs are encouraging social advocates and activists to step up as innovative social entrepreneurs. Increasing the scope of social entrepreneurship naturally increases the likelihood of an efficient, sustainable, and effective initiative. Increased participation draws more attention, especially from policymakers and privately owned corporations that may help shape social entrepreneurs through policy changes, training programs, and leadership development focused on developing social entrepreneurs. Simultaneously research shows that as social entrepreneurs attempt to widen their impact and scale their efforts, institutions will have a key role to play in their success..

Knowledge Entrepreneurship

Knowledge entrepreneurship describes the ability to recognize or create an opportunity and take action aimed at realizing an innovative knowledge practice or product. Knowledge entrepreneurship is different from ‘traditional’ economic entrepreneurship in that it does not aim at the realization of monetary profit, but focuses on opportunities with the goal to improve the production (research) and throughput of knowledge (as in personal transformation), rather than to maximize monetary profit. It has been argued that knowledge entrepreneurship is the most suitable form of entrepreneurship for not-for-profit educators, researchers and educational institutions.

The Information/Knowledge Entrepreneurship

Following Clark"entrepreneurial" can be used as a characteristic not only applied to individuals, but to organizations as social systems, as well as to projects. However, in contrast to Clark, the dynamic process of vision, and change aspects of entrepreneurship (Kuratko, 2006; Schumpeter & Opie, 1934), also known as entrepreneuring are stressed. Thus entrepreneurship is the act of pursuing new ways of doing thing in a real context, or more concretely "the essential act of entrepreneurship is new entry" (Lumpkin & Dess, 1996). Or as Brown put it: "Entrepreneurship is a process of exploiting opportunities that exist in the environment or that are created through innovation in an attempt to create value" (Brown & Ulijn, 2004, p. 5)



Model of knowledge entrepreneurship. Used in Senges 2007 and adapted from McDonald 2002

According to Kanter, entrepreneurs and entrepreneurial organizations "always operate at the edge of their competence, focusing more of the resources and attention on what they do not yet know (e.g. investment on R&D) than controlling what they already know. They measure themselves not by the standards of the past (how far they have come) but by visions of the future (how far they have yet to go). And they do not allow the past to serve as a restraint on the future; the mere fact that something has not worked in the past does not mean that it cannot be made to work in the future. And the mere fact that something has worked in the past does not mean that it should remain." (Kanter as in (Cornwall & Perlman, 1990, pp. 27–28).

Using McDonald (2002, pp. 12–33), the following specific set of attractors have been proposed by Senges (2007) to directly influence the knowledge entrepreneurship ability (figure 1.6): Environmental awareness describes with what practices and with what intensity the organization gathers information about its external and internal environment. The importance of this practice for the establishment of an entrepreneurial organization was also recognized by Cornwall and Perlman (1990). They write: "Scanning should be a fundamental part of every manager's job, not something that is done by top management in conjunction with the annual update of the strategic plan"(Cornwall & Perlman, 1990, p. 46). As such the concept includes activities like internal needs analysis, benchmarking and inter-organizational networking. The organizations attitude towards the risk inherent in the pursuit of all innovation is captured under the concept of risk tolerance. A factor which has not been part of McDonald's model (and which replaces the variable named analytical diligence) covers the organizations vision in the sense of entrepreneuring (Kuratko, 2006). This ability is strongly related to strategic thinking and planning, describes its culture of envisioning and scouting new developments. *New project support* refers to the degree to which new initiatives are institutionalized as

a means of institutional development. Thereby the monetary means, as well as managerial attention given to experimental projects is looked at. Communication is the last variable taken into consideration as a major influence for knowledge entrepreneurship. The organizational style of communication and the richness of communication channels are evaluated here.

Furthermore, the organizational condition, described through its setting and its current leadership and its organizational culture are set to determine the general possibilities for knowledge entrepreneurship to occur. Thereby the organizational setting represents the basic factual being of the organization; its size, type of institution, business model, history and historic approach to innovation. Under leadership the style and values embraced by the current top decision makers, as well as the governance structure itself is evaluated. The concept of organizational culture is central to the understanding of the enabling or discouraging condition of the organization, as it adapts its attitude towards organizational learning and whether values like innovativeness, competitiveness, entrepreneurship etc. are embraced or rejected.

On the output side, knowledge entrepreneurship is set to improve innovativeness and thereby indirectly improve performance. But the most important outcome of organisational entrepreneurship is long term: an organisation that is better able to adapt and survive

—Cornwall & Perlman, 1990, p. 29

Review of Literature

In this section, only a few works that have been identified to have used the concrete term 'knowledge entrepreneur' (and derivates) are reviewed. Most of them have only a broad understanding of the concept and are thus only cited to give a context. The Ph.D. research conducted by McDonald (2002) seems to be the first to have proposed and tested a conceptualization of the term as defined here. In the following paragraphs it is reviewed what has been published in books and then the journal papers:

The Demos Think-Tank has published a report entitled: "Surfing the long wave: Knowledge entrepreneurship in Britain" (Leadbetter & Oakley, 2001), Colin Coulson-Thomas a Professor and Consultant has been promoting his version of the concept in various articles and workshops as well as in the book "The knowledge entrepreneur" (Coulson-Thomas, 2003), and lastly the librarian Stan Skrzeszewski (2006) wrote about knowledge entrepreneurship in the librarian context.

The Demos report is meant to influence policy planning in the UK. It starts with an overview section on entrepreneurship and why it is important to have an entrepreneurial society. It then goes on to present a collection of case studies from the UK creative IT services (gaming and animation). Even though there is no specific definition of the term given, they use knowledge entrepreneurship to indicate that the entrepreneur is starting an enterprise that is based on knowledge work.

With "The knowledge entrepreneur" Coulson-Thomas has written an interesting management consultant book. Having years of experience as business professor and board member, he brings reams of advice he has to give to the table. "The knowledge entrepreneur", has many general chapters (such as 'contemporary information problems', or 'requirements of different stakeholders'). In general this is not an academic but a practitioner oriented book; however some original concepts are worth noting. He describes knowledge-based opportunities as distinct from (classical) resource based opportunities; unfortunately there is no clear definition of a knowledge based opportunity

which makes it difficult to demarcate, as all opportunities except for purely spontaneous action or intuition based opportunities are somehow knowledge based. He also puts forward a list of eleven things a knowledge entrepreneur needs to understand. It is an extensive list starting with the ability to acquire, develop, share, manage and exploit information, knowledge and understanding, and related support tools, and it ends with the ability to lead and manage knowledge workers, network organizations and virtual teams.

The third book 'The Knowledge Entrepreneur' by Stan Skrzeszewski (2006) was originally meant to be entitled "The Entrepreneurial Librarian" (Skrzeszewski, 2006, p. v), it describes practical hands-on advise for how to embrace the entrepreneurship paradigm in the librarian profession. He defines: "A knowledge entrepreneur is someone who is skilled at creating and using intellectual assets for the development of new ventures or services that will lead to personal and community wealth creation or to improved and enhanced services. The knowledge entrepreneur must have sufficient personal knowledge capital to be able to create value and/or wealth through the use of that knowledge capital" (Skrzeszewski, 2006, p. 3). The definition is rather complementary with the Wikipedia conceptualization, only the dependence on existing intellectual capital and the result of 'wealth creation and/or improved services' actually alludes to a different objective than knowledge product or service per se. He continues: "The knowledge entrepreneur must know more about the subject at hand than his or her client of boss. It does not always have to be a great deal more, and sometimes the difference is based on the ability to communicate, present, or more importantly, apply the knowledge asset" (Skrzeszewski, 2006, p. 3). Now this argument is not convincing as true knowledge entrepreneurship, as for the knowledge entrepreneur identifying and realizing an opportunity, rather than exploiting existing intellectual capital is the motivating factor. Later, when Skrzeszewski elaborates on how information technology is a key trend to be exploited by knowledge entrepreneurs, his librarian perspective shows through again: "There is a growing need and expectation for relevant and usable digital information products and services. At the same time, there is a growing problem of information overload. Therefore, there is an attendant need to organize and package information for users, to put the information in context, to provide information intermediaries and facilitators, and to digitize all forms and formats of information – all major entrepreneurial opportunities" (Skrzeszewski, 2006, p. 31).

The fourth author, McDonald (2002), has conducted his PhD research entitled "Knowledge entrepreneurship: Linking organizational learning and innovation" about a comparison of the conditions at hospitals regarding their approaches to knowledge sharing and exploration and the entry of innovations. The work is assessed as the first to develop the distinct characteristics of knowledge entrepreneurship.

Another Author that has used the theme is Jennifer Rowley. In her paper "From learning organization to knowledge entrepreneur" (Rowley, 2000) she deals with how organizational learning can be meaningfully conceptualized. Thereby she stresses learning and the usefulness of the knowledge codified. In this context she elaborates on the concept of the knowledge entrepreneur. In her understanding "an organization that is a knowledge entrepreneur recognizes the multi-faceted nature of knowledge, and the implication that this has for organization learning. Specifically, a knowledge entrepreneur understands how to interface organizational learning and systems evolution in such a way as to optimize and capitalize on its knowledge resources in pursuit of its vision" (Rowley, 2000, p. 14). This understanding expresses the role

of knowledge entrepreneurship in a different way but interesting. She writes knowledge entrepreneurship serves to "build bridges between people and systems". She then goes on to list what is in her eyes important to achieve the co-evolution of system and organizational learning in tandem. These are: allow for diversity, allow for historicity and a knowledge culture, as well as appropriate systems for storage and dissemination.

A short paper entitled "It's difficult to innovate: The death of the tenured professor and the birth of the knowledge entrepreneur" (Bouchikhi & Kimberly, 2001) has been published in the Human Relations journal. The paper describes a near future where knowledge entrepreneurs are "working under a diversity of employment contracts and attachments" (Bouchikhi & Kimberly, 2001, p. 82). Therefore, "knowledge entrepreneurs will be hired and compensated based on their ability to imagine, execute, and use of the results of research to develop original educational products". The authors are dealing specifically with business and management education, for which they are painting a profoundly transformed scenario as they are "break[in] out of their institutional straight jackets and redefine their roles in the production of knowledge". According to their vision, there will be "an almost medieval hierarchy" amongst professors, with the super-star academics performing more the role of a "CEO of a firm than like the traditional professor, managing their work and their careers with extraordinary autonomy from customary university constraints" (Bouchikhi & Kimberly, 2001, p. 82).

In September 2013, the first issue of the first knowledge entrepreneurship journal was published. The Infopreneurship Journal (IJ), (ISSN 2345-265X), is an international, peer-reviewed, bi-annual, open-access journal which focuses on the changing contours of information entrepreneurship, management & business.

Petrakis and Kostis (2013) contribute to the interpretation of entrepreneurship based on the effect of knowledge and cultural background. Their results confirm that cultural background strongly affects both entrepreneurship rates. However, knowledge creation does not affect entrepreneurship rates, as its impact on entrepreneurship is long-lasting (it could reach more or less 10 years) and not a short-term one. Simultaneously, knowledge impact affects negatively the self-employment rates and positively the entry density rates in the economies.

Creative Entrepreneurship

Creative entrepreneurship is the practice of setting up a business – or setting yourself up as self-employed - in one of the creative industries. The focus of the creative entrepreneur differs from that of the typical business entrepreneur or, indeed, the social entrepreneur in that s/he is concerned first and foremost with the creation and exploitation of creative or intellectual capital. Essentially, creative entrepreneurs are investors in talent – their own or other people's.

The most renowned creative entrepreneurs have combined creative flair with entrepreneurial ability to build multimillion-dollar business empires. Examples include Rupert Murdoch, Madonna and Richard Branson.

History

Although, technically, creative entrepreneurs predate the industrial revolution – artisan jewellery making dates back to 7000 BCE and there were professional poets (scôps) in Pre-Norman Britain – the subject of creative entrepreneurship is a relatively new area.

Since the mid 20th century, commentators have observed the move towards a knowledge economy or information society where the old rules of manufacturing-based business no longer apply, or at very least need to be reconsidered (Machlup 1962; Drucker, 1969; Lyotard, 1984). But the creative sector, an intrinsic part of the knowledge economy, has received relatively little attention.

In recent years, due to significant economic growth in the sector (prior to the 2008/9 downturn), there has been a surge of interest in the creative industries, and the issue of creative entrepreneurship has been pushed to the fore. In parallel with (and no doubt partially motivated by) general enthusiasm from policy makers and support agencies, creative entrepreneurship has grown as an academic discipline, Creative entrepreneurship courses are becoming widely available, and seem increasingly popular with students.

A new body of work has emerged with writers such as Richard E. Caves, John Howkins, Richard Florida and Chris Bilton all championing the creative industries and addressing the specific skills needed to succeed in them.

In 2001, the Harvard economist and academic, Richard E. Caves, made the following observation:

“The preferences or tastes of creative artists differ in substantial and systematic (if not universal) ways from their counterparts in the rest of the economy where creativity plays a lesser (if seldom negligible) role.”

Caves listed seven basic economic or “bedrock” properties that he believes distinguish creative activities from other sectors of the economy:

(1) Demand is uncertain

(2) Creative workers care about their product

(3) Some creative products require diverse skills

(4) Differentiated products

(5) Vertically differentiated skills

(6) Time is of the essence

(7) Durable products and durable rents

The body of Caves’ work makes a division between “artists” and “gatekeepers” and focuses on the issue of contracts between the two. In his analysis, it is the “gatekeepers” (art dealers, agents, managers, publishers) who “decide whether the prospective value of [an artist’s] creative output warrants the cost of humdrum inputs needed to place it before final buyers”.

Today, with the onset of Long Tail economics, Caves' division of labour might be seen as increasingly irrelevant: the artist can take his/her product direct to market via the Internet and is no longer dependent on a third party to negotiate access; thus his/her entrepreneurial and business abilities are ever more crucial.

Definition

The policy consultant and author, John Howkins, observes how the French economist and journalist, Jean-Baptiste Say, coined the term 'entrepreneur' in the late Eighteenth Century to describe a person who unlocks capital tied up in land and redirects it. Howkins makes this observation on the creative entrepreneur:

"Entrepreneurs in the creative economy...operate like Say's original model entrepreneur but with an important difference...they use creativity to unlock the wealth that lies within themselves. Like true capitalists, they believe that this creative wealth, if managed right, will engender more wealth.".

Howkins goes on to observe that, despite lack of recognition from economists and politicians, and traditional lack of support from society (although this is changing), creative entrepreneurs tend to be bright and to value their independence above all else. The freedom to manage their own time and abilities compensates for the unpredictable nature of their working environment, and irregularity of their income:

"These people instinctively think for themselves, instinctively network, instinctively keep several balls in the air at once. They are the shock troops not only for new ideas about our culture but for new ideas about working in it."

Contribution to the Economy

In 2007, the UK's creative sector was growing twice as fast as the rest of the economy and generally considered to be equally important to the financial sector, which, at the time, was the driving force of the UK's gross domestic product.

Now, as then, the majority of people working in the creative industries tend to be self-employed – either freelance or running their own business. These people have the potential to be a key driver of the creative economy, but few see themselves as 'creative entrepreneurs'.

Figures show that only a handful of self-employed creatives in the UK have gone on to start a company or employ other people - the US, by contrast, has a relatively high number of business start-ups. (Howkins, 2001)

As Howkins and others (Caves, 2000; Davies, 2007) observe, there has generally been a lack of support for creative entrepreneurship in the UK.

Specific Skills

Creative entrepreneurs need to master specific skills: an understanding of intellectual property is essential, combined with the ability to manage cashflow, key talent and the creative process effectively.

Howkins (2001) lists 11 rules for successful creative entrepreneurs. These rules include: invent yourself, prioritise ideas over data, be nomadic, learn endlessly and, most importantly, have fun.

Software Entrepreneurship

Software entrepreneurship has a different set of developing strategies than other business start-ups. The development of software, a digital "soft" good, involves different business models, product strategy, people management, and development plan compared to the traditional manufacturing and service industries. For example in the software business, making one or ten million copies of a product cost about the same. Furthermore, the productivity difference between a good and bad employee is ten to twentyfold. As well, software projects tolerate 80 percent lateness and ongoing design changes on a regular basis.

Software entrepreneurship involve infinitely broad range of businesses; from helping people plan daily events to controlling a space shuttle. There are mainly three kinds of software businesses: products, services and content business such as Wikipedia.

Products Versus Services

The first thing software entrepreneurs should understand is the difference and the interrelationship between products and services business. The software product business is about selling licensed packages to customers. These products help solve a user pain and have potential for growth and profits. One advantage of starting up in this direction is the ability to attract stock market investors and venture capitalists for funding. This business also enjoys enormous economies of scale in selling multiple copies of the same software. The downside of creating products is that software sales are subject to fluctuations. Sales will drop drastically in economic recessions.

The service business involves creating applications for clients that tailor to their business needs. This includes the maintenance of software products they have purchased before. One advantage of service business is that long-term customer contracts can allow the company to survive rough economic times. The downside is that the business needs to attract enough clients to keep developers and consultants busy.

Software companies can also develop a hybrid solution involving a mixture of products and services. In this case, solutions are sold to clients that require extensive customization. Approximately 20 to 50 percent of coding is required for each individual client. Customers purchasing this type of IT solution usually do not switch vendors for long periods of time.

Funding

Bank Financing

This is practically an impossible method as the bank requires security and personal loan guarantees.

Government Aid

Governments usually give out non-repayable grants to encourage start-ups. There are also investment tax credits that can be claimed. One thing to be careful about government aid is the lengthy procedures that may be required before obtaining the funds.

Venture Capital

Venture capital is risk capital invested into a start-up company at its early stages. Venture capitalists usually invest in start-ups that already have a relatively developed software product and some early sales. They look for products that have a large potential in a growing market with a competitive edge.

Venture capital help offers a large sum of money and often assistance in managing the company. People with software start-up experiences are available for mentoring. There are also help available in assisting the process of going public.

Inclusive Entrepreneurship

Inclusive entrepreneurship is about a set of attitudes, competences and skills which allow people to turn their dreams into concrete projects or "enterprises" and then see these through to fruition. It is about more than starting an individual business. Inclusive entrepreneurship can be applied to self-employment, starting or growing micro or small enterprises and to social enterprise using business based approaches driven by social mission. Indeed, the personal qualities required for entrepreneurship are essential for success in the knowledge economy – whether this be in the private or public sectors.

The use of the word 'inclusive' indicates a belief that entrepreneurship is for all and that the personal qualities and conditions required for entrepreneurship are not the prerogative of a privileged, highly educated few. Indeed, millions of people across the globe take complex decisions, manage risk, find new innovative solutions, and collaborate with others just to survive in their daily lives. However the obstacles and risk they face when trying to make the leap from survival to long-term sustainability are proportionally far greater than those involved in launching a new company on the stock exchange.

Inclusive entrepreneurship is about supporting entrepreneurs from all backgrounds by creating a genuinely level playing field. This involves understanding and then overcoming the barriers faced by different people in different places. It is about unleashing the creative potential that people have within them and using this to create a more sustainable future for all of us.

EU Community of Practice

Major progress on inclusive entrepreneurship has been made through the EU's EQUAL Community Initiative which included a theme on business creation that was taken up in approximately half the EU Member States. This action research has led to the development of a community of practice on inclusive entrepreneurship called COPIE. COPIE was led by Flanders and Germany with partners in Spain, Portugal, and the UK and observers in France, the Netherlands, Ireland,

the Czech Republic and Romania. COPIE developed a series of tools to facilitate the assessment of enterprise support systems from the point of view of a wide range of specific groups (e.g. women, minority ethnic groups, migrants, people with disabilities, young people and older people). Much of its learning has been capitalised on a wiki at http://www.wikipreneurship.eu.

Following the end of EQUAL, COPIE 2, a learning network under the *Learning for Change* programme, has been established. Again led by Germany, it includes Flanders, Wallonia, the Czech Republic, Spain, Andalucía and Lithuania. It has working groups on:

- policy co-ordination
- access to finance
- entrepreneurship education
- coaching and mentoring
- quality management and inclusive business support
- a European diagnostic & benchmarking tool

Syracuse University Project

Inclusive Entrepreneurship is also the name of a project which evolved from the Start-Up NY Pilot Project funded by Office of Disability Employment Policy by DOL in Onondaga County, Syracuse University.

It defines inclusive entrepreneurship as:

> "A strategy and process for assisting people with diverse disabilities and/or economic and social disadvantages to become entrepreneurs through business planning training, use of customized business development goal and support planning, and access to financial resources utilizing the resources of diverse public and private partners working within a consensus-driven, collaborative framework".
>
> (Definition courtesy of Gary Shaheen from BBI and Mirza Tihic from Whitman School of Management (Syracuse University))

Inclusive Entrepreneurship utilizes practices and partnerships developed through the three year (2006-2009) US Department of Labor/Office of Disability Employment Policy (ODEP)-funded "Start-Up NY" program and the five year (2009-2014) Small Business Association's Program for Investment in Micro-entrepreneurs (SBA-PRIME). Start-Up NY brought a personal multidisciplinary team consisting of business consultants, disability experts, benefits counselors, mentors, and any identified peer and family supports together with the participant to merge their knowledge and resources, and provide a customized micro-enterprise training, assistance, and counseling resource.

Inclusive Entrepreneurship is led by Syracuse University and its Whitman School of Management/ Department of Entrepreneurship and Emerging Enterprises (EEE) together with the Burton Blatt Institute (BBI). However, it is important to note that the success of Inclusive Entrepreneurship as a university and community-based initiative is also based upon the development of key partner-

ships that are necessary to helping entrepreneurs develop their businesses. These can include the local Small Business Development Center (SBDC) and One Stop Career Center as well as key local stakeholders that work with low-income individuals, including low-income people with disabilities, to help them achieve economic self-sufficiency.

Why is Inclusive Entrepreneurship Important?

Inclusive entrepreneurship goes beyond business ownership. It benefits everyone by fostering a fundamental understating of business, community stakeholders, community collaboration, benefits, and the skills and confidence needed for personal and community success. The participants exposed to inclusive entrepreneurship through Start-Up NY and SBA Prime frequently express that they have more opportunity to exercise creative freedoms, develop higher self-esteem, better financial literacy, and an overall greater sense of control over their own lives. Community partners were able to save time and money by implementing a seamless process of inclusive entrepreneurship.

Corporate Social Entrepreneurship

A corporate social entrepreneur (CSE) is someone who attempt to advance a social agenda in addition to a formal job role as part of a corporation. CSEs may or may not operate in organizational contexts that are predisposed toward corporate social responsibility. CSEs's concerns are with both the development of social capital and economic capital, and the formal job role of a CSE may not necessarily be connected with corporate social responsibility, nor does a CSE have to be in an executive or management position.

Relevance

CSE is multi-disciplinary, relating to the fields of corporate social responsibility and sustainability. It is relevant to business and management; specifically to business ethics, sustainability, organizational behavior, entrepreneurship, human resource management and business strategy. The concept overlaps with sociology, anthropology and social psychology and philosophy.

Background

CSE was first described in 2002 from a theoretical working paper which was published in the Hull University Business School Research Memoranda Series. In that paper, it was argued that CSR (and within that, sustainability) can also be motivated by personal values, in addition to the more obvious economic and macro political drivers. This reflected the traditional philosophical and business ethics debate regarding moral agency. This paper was followed by a U.K. conference paper which discussed the importance of managerial discretion in CSR and was published the following year in the Journal of Business Ethics.

The term "corporate social entrepreneur" was coined in a paper presented at the 17th Annual European Business Ethics Network Conference in June 2004. Term corporate social entrepreneur was defined and differentiated from other types of entrepreneurs such as the executive entrepre-

neurs, intrapreneurs (Pinchot, 1985), the policy entrepreneur, and the public or social entrepreneur. Initially, the term related to managers. However it was later widened to includes employees at any level of a firm, regardless of their formally appointed status. Exploratory research shows that being a senior manager is not a pre-requisite for corporate social entrepreneurship, although it is an advantage

Hemingway's concept of the CSE emerged as a result of her own personal experience working as a marketing executive in the corporate world and it has also been the subject of some exploratory empirical investigation The notion was also inspired by Wood, who had previously referred to 'Ethical training, cultural background, preferences...and life experiences...that motivate human behavior', thereby supporting Trevino's conceptual interactionist model of ethical decision making in organizations. Trevino's model included both individual and situational moderators, to combine with the individual's stage of cognitive moral development, to produce either ethical or unethical behavior. And whilst studies existed regarding the activities of environmental champions at work or other change leaders, none of these studies specifically examined the role of employees' personal values in entrepreneurial discretion with regard to CSR/sustainability.

Thus, the connection between philosophical ideas of moral character as an influence for corporate social responsibility (CSR) and the psychological notions of prosocial or pro-environmental behavior, provides a different focus from the more commonly discussed structural drivers for CSR/sustainability in business and management i.e., business strategy in the form of public relations activity; encouragement from government or organizational context.

Difference between the Corporate Social Entrepreneur and The Social Entrepreneur

The social entrepreneurship literature has largely concentrated on the voluntary, not-for-profit or "third" sector. In the for-profit context, the social entrepreneur is traditionally perceived as a philanthropic agent or business owner. However the corporate model provides a very different context. In the UK, the corporation is defined by the company's directors and shareholders in its articles of association, requiring employees to deliver returns to shareholders, through their job roles. The exception to this might be the UK's Co-operative Group, which describes its business as guided by social mission and is not responsible to shareholders for delivering profit. Consequently, unless a corporate employee has been given special dispensation from the profit motive in order to specifically create social value, their employed work cannot be described as social entrepreneurship (although the individual's activities outside of the workplace might be). So, even though the majority of corporations, nowadays, claim to be fully committed to CSR, it is pushing the boundaries to describe even the most hybrid of companies (such as those dedicated to the growth of fair trade or environmentally sustainable production), as social enterprises staffed by social entrepreneurs. This is because the remit of the organization as a corporation prevents this. As a consequence, the CSE is unlikely to have the time or other resources to commit full scale toward progressing a socially responsible agenda, due to organizational constraints. Hence corporate social entrepreneurship is characterized by its informality, in terms of being added on to the job and performed in an ad-hoc way, which results in its tremendous variability. Furthermore, the entrepreneurial discretion which is required to perform it is controversial.

Business Ethics

CSE which creates social value and benefits both the corporation and society has been described as a manifestation of enlightened self-interest. Alternatively, a deontological viewpoint frames acts of socially responsible behavior as driven by the individual's sense of duty to society, which may be viewed in terms of altruism.

Research Findings

Ethnographic research was conducted in a $1.4bn multi-national corporation between 2005-2008. The tentative findings described four modes of moral commitment to social responsibility and sustainability: the Active CSE, the Concealed CSE, the Conformist and the Disassociated. The 'Disassociated' advocated "more aggressive performance management" for the company and espoused the notion that values were in opposition to corporate performance. The 'Conformist' mode represented the majority of subjects in the study, conforming to the prevailing ethical context, whatever that might be. Many of these individuals were occupying formal CSR/sustainability roles. This mode was characterized by enlightened self-interest: i.e., that CSR/sustainability was good for their careers as well as good for the company. Neither of these two modes contained CSEs. Two modes of corporate social entrepreneurship, 'Active' and 'Concealed', were comparable by their espoused self-transcendent values, and were distinguished by their perception of the organizational context as supportive, or not, of CSR/sustainability. The 'Concealed' CSE was an advocate of some aspects of CSR/sustainability, whilst others were progressed outside of work, because of perceived organizational constraints. By comparison, the 'Active' CSE mode contained individuals with who would speak up when they saw the potential for corporate wrongdoing. This minority of people had a reputation within the company as responsible personal leaders of integrity.

Activity done by CSEs varied in magnitude across the domains of CSR. Some had initiated company-wide and formally approved environmental projects. Others had advocated animal welfare, or spoke out to protect vulnerable colleagues. CSEs were found in different company positions, and a characteristic of CSEs was that they had actively enlarged their own job roles to encompass their areas of social concern.

Research by Summers and Dyck (2011) described the abstract stages of CSE as: first socialization, or the conception of a socially beneficial idea. Second externalization, developing the idea into a concrete plan. Third integration, making the idea a reality using any available resources. Finally, fourth is internalization, or establishing the socially beneficial practice into the company.

Threat or Opportunity?

All this leads us to the inherent complexity surrounding the subject of CSR, regarding its connection to stakeholder theory and its essentially contested nature. So, whilst some studies have shown a positive relationship between CSR and financial performance, others regard the picture as more nuanced Consequently, the notion of the Corporate Social Entrepreneur is equally controversial: not solely due to the arguments about the role of business and whether or not CSR helps financial performance; but *also* because the concept of employee *discretion* has been identified as a key factor regarding a social orientation at work, or, a moral character (in the ancient philosophical sense). And whilst the possibility of *unethical behavior* is also acknowledged as an outcome of

discretion and agency: corporate *ir*responsibility which has been a focus of study in business ethics, is regarded as insufficient and only the starting point, if our quest is to develop more socially responsible organizational contexts. This is of particular relevance in the wake of the global financial crisis from 2008, caused by financial irregularities and lapses in corporate governance and personal integrity. Further, these failures of neo-liberal capitalism have produced calls to move beyond capitalism. This has been illustrated theoretically by Hemingway, who posited the structural conditioning of big business, from the now old-fashioned Friedmanite position on CSR to the current, dominant, instrumental CSR perspective, which was exemplified by her 'Conformist' informants. Then, transforming beyond enlightened self-interest to a new form of capitalism, via corporate social entrepreneurship.

The Synonymous Nature of Corporate Social Entrepreneurship and Social Intrapreneurship

Corporate social entrepreneurship often becomes necessary when there is a difficult balance between the financial objectives of a company and public well-being. These individuals are closely related to and sometimes referred to as Social Intraprenuers. Indeed, Hemingway (2013) referred to the synonymous nature of the two terms: intrapreneur (Pinchot, 1985) and corporate entrepreneur.

Social Intraprenuership was described by two landmark reports on the subject. Net Impact, with the support of eBay, wrote the report *Making Your Impact at Work,* and SustainAbility, with the support of IDEO, Skoll Foundation, and Allianz, compiled the report *The Social Intrapreneur: A Field Guide for Corporate Changemakers*. BeDo held the first conference on the subject, BeDo Intra 2009, around the Social Capital Markets Conference (SOCAP09) in San Francisco. Wherein some social intreprenuers met to discuss their common motivation and challenges in enacting social change. In the fall of 2012, Ashoka Changemakers, in partnership with Accenture, initiated the first network exclusively for social intrapreneurs, the League of Intrapreneurs.

Despite the widespread appointment of ethics and compliance officers in the U.S.A., many organizations in the United States have experienced difficulty in adding aspects of corporate social entrepreneurship/responsibility into their practices, due to the fact that these methods must be created within the organization. Corporate social entrepreneurship requires those at the top of an organization to take charge and put the company in a position to have a positive social impact, such as offering rewards for employees that act in a socially responsible manner. The value system that is employed within an organization plays a large role for the emergence of corporate social entrepreneurs. Moreover, the sustainability of social intrapreneurship ventures have been called into question by critics, and the process is generally long and strenuous. Socially beneficial ventures have had difficulties turning profit, as they often look at the long term benefits while struggling in the short term, leading to hesitance from investors. Nevertheless, Hemingway's (2013) study showed enormous variation in the types of activities corporate social entrepreneurs were engaged in, across all the domains of CSR. This activity also ranged in scale: from formally sanctioned projects, to informal activity taking place under the organizational 'radar'.

Encouraging Corporate Social Entrepreneurship/Social Intrapreneurship

If a company decides to adopt corporate social entrepreneurship, there are a few researched circumstances that have been shown to increase socially intrapreneurial activity. When there is a change in the environment that disconnects sanctions and rewards, a disassociation of the company norms from their assumed moral foundations, resulting in an undermined set of core beliefs. When employees are dissatisfied with the existing moral assumptions of the company, they are more likely to take personal initiative. If the employee feels they will be supported and given access to resources without immediate guaranteed results, these employees are more likely to pursue social intrapreneurship past the idea stage.

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3

Elements of Entrepreneurship

Entrepreneurship deals with the process of designing and running new businesses; some of the elements discussed in this chapter are small business administrations and lean startups. It incorporates all the elements of entrepreneurship, providing a complete understanding.

Small Business Administration

The Small Business Administration (SBA) is a United States government agency that provides support to entrepreneurs and small businesses. The mission of the Small Business Administration is "to maintain and strengthen the nation's economy by enabling the establishment and viability of small businesses and by assisting in the economic recovery of communities after disasters". The agency's activities are summarized as the "3 Cs" of capital, contracts and counseling.

SBA loans are made through banks, credit unions and other lenders who partner with the SBA. The SBA provides a government-backed guarantee on part of the loan. Under the Recovery Act and the Small Business Jobs Act, SBA loans were enhanced to provide up to a 90 percent guarantee in order to strengthen access to capital for small businesses after credit froze in 2008. The agency had record lending volumes in late 2010.

SBA helps lead the federal government's efforts to deliver 23 percent of prime federal contracts to small businesses. Small business contracting programs include efforts to ensure that certain federal contracts reach woman-owned and service-disabled veteran-owned small businesses as well as businesses participating in programs such as 8(a) and HUBZone.

SBA has at least one office in each U.S. state. In addition, the agency provides grants to support counseling partners, including approximately 900 Small Business Development Centers (often located at colleges and universities), 110 Women's Business Centers, and SCORE, a volunteer mentor corps of retired and experienced business leaders with approximately 350 chapters. These counseling services provide services to over 1 million entrepreneurs and small business owners annually. President Obama announced in January 2012 that he would elevate the SBA into the Cabinet, a position it last held during the Clinton administration, thus making the Administrator of the Small Business Administration a cabinet-level position.

History

The SBA was created on July 30, 1953, by President Eisenhower with the signing of the Small Business Act, currently codified at 15 U.S.C. ch. 14A. The Small Business Act was originally enacted as the "Small Business Act of 1953" in Title II (67 Stat. 232) of Pub.L. 83–163 (ch. 282, 67 Stat. 230, July 30,

1953); The "Reconstruction Finance Corporation Liquidation Act" was Title I, which abolished the Reconstruction Finance Corporation (RFC). The Small Business Act Amendments of 1958 (Pub.L. 85–536, 72 Stat. 384, enacted July 18, 1958) withdrew Title II as part of that act and made it a separate act to be known as the "Small Business Act". Its function was and is to "aid, counsel, assist and protect, insofar as is possible, the interests of small business concerns".

The SBA has survived a number of threats to its existence. In 1996, the Republican-controlled House of Representatives planned to eliminate the agency. It survived and went on to receive a record high budget in 2000. Renewed efforts by the Bush Administration to end the SBA loan program met congressional resistance, although the SBA's budget was repeatedly cut, and in 2004 certain expenditures were frozen. The Obama Administration has supported the SBA budget. Significant supplemental appropriations for the agency strengthened SBA lending through the American Recovery and Reinvestment Act of 2009 and the Small Business Jobs Act of 2010.

Organizational Structure

The SBA has an Administrator and a Deputy Administrator. It has an associate administrator or director for the following offices:

- Business Development
- Capital Access
- Communications and Public Liaison
- Congressional and Legislative Affairs
- Credit Risk Management
- Disaster Assistance
- Entrepreneurial Development
- Entrepreneurship Education
- Equal Employment Opportunity and Civil Rights Compliance
- Faith Based and Neighborhood Partnerships
- Field Operations
- Government Contracting and Business Development
- Hearings and Appeals
- HUBZone Program
- International Trade
- Investment and Innovation
- Management and Administration
- Native American Affairs

- Performance Management
- Small Business Development Centers
- Veterans Business Development
- Women's Business Ownership

Senate-confirmed appointees include: Administrator, Deputy Administrator, Chief Counsel for Advocacy, and Inspector General.

Lending Programs

The most visible elements of the SBA are the loan programs it administers. The SBA does not provide grants or direct loans with the exception of Disaster Relief Loans. Instead, the SBA guarantees against default certain portions of business loans made by banks and other lenders that conform to its guidelines.

The primary use of the programs is to make loans for longer repayment periods based in part upon looser underwriting criteria than normal commercial business loans, though these programs can enable owners with bad credit to receive a loan. A business can qualify for the loan even if the yearly payment approximates previous year's profit. Most banks want annual payment for loans no more than two-thirds (2/3) of prior year's operating profits. Lower payments, longer terms and loosened criteria allow some businesses to borrow more money than otherwise.

One of the most popular uses of SBA loans is commercial mortgages on buildings occupied or to be occupied by small business. These programs are beneficial to small business because most bank programs frequently require larger down payments and/or have repayment terms requiring borrowers refinance every five years. They can be beneficial to the bank in that banks can reduce risk by taking a first-lien position for a smaller percentage of the project, then arranging for a SBA Certified Development Company to finance the remainder through a second-lien position.

Loan Guarantee Program

The 7(a) Loan Guarantee Program is designed to help entrepreneurs start or expand their small businesses. The program makes capital available to small businesses through bank and non-bank lending institutions. The Small Business Jobs Act of 2010 permanently increased the maximum size of these loans from $2 million to $5 million.

504 Fixed Asset Financing Program

The 504 Fixed Asset Financing Program is administered through non-profit Certified Development Companies throughout the country. This program provides funding for the purchase or construction of real estate and/or the purchase of business equipment/machinery. Of the total project costs, a lender must provide 50% of the financing, a Certified Development Company provides up to 40% of the financing through a 100% SBA-guaranteed debenture, and the applicant provides approximately 10% of the financing. Thorough due diligence of properties purchased through this program is required. Specific SBA Level I Environmental Site Assessment guidelines apply as all

properties are treated as "high risk." The Small Business Jobs Act permanently increased the maximum size of these loans from $2 million to $5 million ($5.5 million for manufacturers).

MicroLoan Program

The Small Business Jobs Act increased the maximum amount of SBA microloans from $35,000 to $50,000. These are offered through non-profit microloan financial intermediaries.

Disaster Loan Program

SBA opens Disaster Loan Center in Austell, GA, October 26, 2009

Homeowners and renters are eligible for long-term, low-interest loans to rebuild or repair a damaged property to pre-disaster condition. Before making a loan, the SBA must establish the cost of repairing or rebuilding the structure (determined by SBA's Field Inspectors who visit the property), applicant's repayment ability (determined by applicant's creditworthiness and income) and whether the applicant can secure credit in the commercial market (called the credit elsewhere test). Applicants who do not qualify for disaster assistance loans are referred to the Federal Emergency Management Agency (FEMA) for grants. Although SBA won't decline a loan for lack of collateral, the agency is statutorily required to collateralize whatever assets are available including the damaged property, a second home or other real estate.

Businesses are also eligible for long-term, low-interest loans to recover from declared disasters. Similar to the homeowner's loan program mentioned above, small business owners pledge any available assets and acquire a similar pledge from a spouse or partner in the case of shared assets. If defaulting on the debt, the spouse or partner must surrender their value in the assets. The total value of an applicant's assets is not considered by the SBA; therefore, a company may be approved for a loan regardless of whether that entity has little or substantial net worth.

Once an SBA loan is approved, the SBA mails closing documents to the applicant for signature. Disbursements include an initial unsecured amount of $14,000, and subsequent disbursements depending upon construction progress and continued insurance coverage. After final disbursement, the loan is transferred to one of the SBA's servicing offices for management, or to its collections office in the case of default.

Disaster Relief Loans are often approved within 21 days. However, after Hurricane Katrina the SBA processed applications, on average, in about 74 days.

If a business with a Disaster Relief Loan defaults on the loan, and the business is closed, the SBA will pursue the business owner to liquidate all personal assets, to satisfy an outstanding balance. The IRS will withhold any tax refund expected by the former business owner and apply the amount toward the loan balance.

Entrepreneurial Development Programs

Annual SBA 'Straight Talk'

Small Business Administration has designed a one-stop shop to help the entrepreneurs meet all of their small business needs. Here, they can learn the fundamentals of business, marketing and credit. A budding entrepreneur can even get the opportunity to discuss various business-related matters with their other successful peers.

Ever since its inception, entrepreneurs have founded a wide range of businesses like breweries and construction as well as everything in between.

This year too would be no different. SBA is about to organize its 19th yearly Straight Talk on 24th January, 2015. This time, the Buffalo Niagara Convention Center has been chosen as the annual event's venue. There would be eight follow up workshops/seminars at Medaille College that are slated to start from the beginning of February, 2015. In order to register, visitors will have to pay a registration fee of $20 when booked in advance. Or else, they will be charged $25 on arrival at the door. For students, the registration fee is $10 and the entrance is free for the veterans."

Small Business Development Centers

Approximately 900 Small Business Development Center sites are funded through a combination of state and SBA support in the form of matching grants. Typically, SBDCs are co-located at community colleges, state universities, and/or other entrepreneurial hubs.

Women's Business Centers

Women's Business Centers (WBCs) represent a national network of over 100 non-profit educational centers throughout the United States and its territories, funded in part through SBA support. The maximum SBA grant for a WBC is $150,000 per year, although most centers receive less. WBCs are required to provide non-federal matching funds of 50% of the grant in the first two years and 100% thereafter.

WBCs are designed to assist women in starting and growing small businesses, though their services are available to all. WBCs help women succeed in business by providing training, mentoring, business development, and financing opportunities to over 100,000 women entrepreneurs annually across the nation. Women's Business Centers are mandated to serve a significant number of socially and economically disadvantaged individuals.

Research conducted by the Association of Women's Business Centers indicates that 64% of WBC clients in 2012 were low-income, 39% were persons of color, and 70% were nascent businesses.

WBC services are provided in more than 35 languages, with 64% of WBCs providing services in two or more languages. In addition to business training services, 68% of WBCs provide mentoring services, and 45% provide microloans.

Service Corps of Retired Executives (SCORE)

SBA annually grants SCORE the funds to oversee approximately 350 chapters volunteers who provide free mentoring and counseling to entrepreneurs and small business ownership.

Veteran Business Outreach Centers (VBOC)

SBA's Office of Veteran Business Development operates fourteen Veteran Business Outreach Centers through grants and cooperative agreements with organizations which provide technical assistance to businesses owned by veterans and family members. VBOCs also provide instructors for the SBA's program Boots to Business. Boots to Business is delivered in partnership with SBA's Resource Partners, SCORE Mentors, Small Business Development Centers, Women's Business Centers, and Veterans Business Outreach Centers and the Institute for Veterans and Military Families at Syracuse University. It is available free on participating installations to service members and their dependents transitioning or retiring from the U.S. military. Additional SBA resources for veterans are available from http://www.sba.gov/vets.

Federal Contracting and Business Development Programs

8(a) Business Development Program

The 8(a) Business Development Program assists in the development of small businesses owned and operated by individuals who are socially and economically disadvantaged, such as women and minorities. The following ethnic groups are classified as eligible: Black Americans; Hispanic Americans; Native Americans (American Indians, Eskimos, Aleuts, or Native Hawaiians); Asian Pacific Americans (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China (including Hong Kong), Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Fiji, Tonga, Kiribati, Tuvalu, or Nauru); Subcontinent Asian Americans (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands or Nepal). In 2011, the SBA, along with the FBI and the IRS, uncovered a massive scheme to defraud this program. Civilian employees of the U.S. Army Corps of Engineers, working in concert with an employee of Alaska Native Corporation *Eyak Technology LLC* allegedly submitted fraudulent bills to the program, totaling over 20 million dollars, and kept the money for their own use. It also alleged that the group planned to steer a further 780 million dollars towards their favored contractor.

HUBZone

HUBZone is an SBA program for small companies that operate and employ people in Historically Underutilized Business Zones (HUBZones). The HUBZone program was created in response to the HUBZone Empowerment Act created by the US Congress in 1998.

SBA Loan Industry

The SBA loan industry can be divided into distinct categories:

- Large bank institutions, such as Chase, Bank of America and Wells Fargo, generate the bulk of their SBA loan volume by loans, especially the express loan and line of credit, offered to those who would be declined for 'normal' bank credit due to factors such as length of time in business or slightly more conservative underwriting factors. Banks have sophisticated computer systems that generally make this process seamless, and are quite different from other financial institutions who utilize SBA lending for separate and distinct purposes.
- SBA loans are used heavily by banks of all sizes to finance the purchase or construction of business owner-occupied real estate (i.e., real property purchased for commerce). Many banks offer SBA loans only for this purpose. In particular, they finance properties that a bank would consider too risky to finance conventionally, due to being of a special use [bowling alley, automobile repair] or environmentally risky nature [petroleum products storage, electrical substation] that can make their resale value limited. Some example properties include motels, gas stations and car washes.
- SBA loans also encourage individuals to buy existing business. Since, unlike in real estate transactions, commercial lenders can fund referral fee earned by business brokers helping people buy and sell businesses, this segment of industry is supported by smaller banks and standalone finance companies who understand this sector.

Small Business Investment Companies

One of the first steps toward a professionally managed private equity and venture capital industry was the passage of the Small Business Investment Act of 1958. The 1958 Act officially allowed the SBA to license private "Small Business Investment Companies" (SBICs) to help with financing and managing small entrepreneurial businesses in the United States. Passage of the Act addressed concerns raised in a Federal Reserve Board report to Congress that concluded that a major gap existed in the capital markets for long-term funding for growth-oriented small businesses. Additionally, it was thought that fostering entrepreneurial companies would spur technological advances to compete with the Soviet Union. Facilitating the flow of capital through the economy up to the pioneering small concerns in order to stimulate the U.S. economy was and still is today the main goal of the SBIC program. The passage of the Small Business Investment Act of 1958 by the federal government was an important incentive for would-be venture capital organizations. The act provided venture capital firms structured either as SBICs or Minority Enterprise Small Business Investment Companies (MESBICs) access to federal funds which could be leveraged at a ratio of up to 4:1 against privately raised investment funds. In 2005, in response to extensive losses incurred in connection with tech boom investments, the SBA decided to wind down its "Participating Securities" SBIC program, which had provided equity-like SBA backing for equity-oriented SBIC funds. The SBA's "Debenture" SBIC program, the original SBIC vehicle founded in 1958, is still very much alive and healthy and continues to license and contribute capital to SBIC funds. The SBIC program had its highest ever year in Fiscal Year 2010.

Criticism

The Cato Institute has challenged the justification of the federal government in intervening in credit markets. Among other criticisms, Cato argues that "the SBA benefits a relatively tiny number of small businesses at the expense of the vast majority of small business that do not receive government assistance. SBA subsidies also represent a form of corporate welfare for the banking industry." Cato notes that the failure rate of all SBA loans from 2001 to 2010 is 19.4%, contributing to a cost to taxpayers of $6.2 billion in 2011.

In 2005, SBA Inspector General *Report 5-15* stated, "One of the most important challenges facing the Small Business Administration and the entire Federal government today is that large businesses are receiving small business procurement awards and agencies are receiving credit for these awards."

In October 2009, the Government Accountability Office released *Report 10-108* which stated, "By failing to hold firms accountable, SBA and contracting agencies have sent a message to the contracting community that there is no punishment or consequences for committing fraud."

Lean Startup

Lean startup is a method for developing businesses and products first proposed in 2008 by Eric Ries. Based on his previous experience working in several U.S. startups, Ries claims that startups can shorten their product development cycles by adopting a combination of business-hypothesis-driven experimentation, iterative product releases, and what he calls validated learning. Ries' overall claim is that if startups invest their time into iteratively building products or services to meet the needs of early customers, they can reduce the market risks and sidestep the need for large amounts of initial project funding and expensive product launches and failures.

Originally developed with high-tech companies in mind, the lean startup philosophy has since been expanded to apply to any individual, team, or company looking to introduce new products or services into the market. Today, the lean startup's popularity has grown outside of its Silicon Valley birthplace and has spread throughout the world, in large part due to the success of Ries' bestselling book, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*.

Background

Ries developed the idea for the lean startup from his experiences as a startup advisor, employee, and founder. His first startup, Catalyst Recruiting, failed because they did not understand the wants of their target customers, and because they focused too much time and energy on the initial product launch. After Catalyst, Ries was a senior software engineer with There, Inc. Ries describes There Inc. as a classic example of a Silicon Valley startup with five years of stealth R&D, $40 million in financing, and nearly 200 employees at the time of product launch. In 2003, There, Inc. launched its product, There.com, but they were unable to garner popularity beyond the initial early adopters. Ries claims that despite the many proximate causes for failure, the most important

mistake was that the company's "vision was almost too concrete," making it impossible to see that their product did not accurately represent consumer demand.

Although the lost money differed by orders of magnitude, the failures of There, Inc. and Catalyst Recruiting share similar origins, with Ries stating that "it was working forward from the technology instead of working backward from the business results you're trying to achieve." Ries began to develop the lean startup philosophy from these experiences, and from others observed by working in the high-tech entrepreneurial world.

Origins

The lean startup philosophy is based on lean manufacturing, the streamlined production philosophy pioneered by Taiichi Ohno by combining flow principles used by Henry Ford starting in 1906 and the TWI programs introduced to Japan in 1951. After more than 15 years of experiments, he had a stable and reproducible system. Use of the term *lean* to describe Ohno's system was first formalized in the book *The Machine That Changed the World*. The lean manufacturing system considers as waste the expenditure of resources for any goal other than the creation of value for the end customer, and continually seeks ways to eliminate such waste. In particular, the system focuses on minimizing inventory throughout the assembly line. Kanban cards are used to signal only when the necessary inputs to production are needed, and in so doing, reduce assembly waste (inventory) and increase productivity. Additionally, immediate quality control checkpoints can identify mistakes or imperfections during assembly as early as possible to ensure that the least amount of time is expended developing a faulty product. Another primary focus of the lean management system is to maintain close connections with suppliers in order to understand their customers' desires. In an article published in the *Harvard Business Review* in 2013, Ries' mentor Steve Blank described how the lean startup philosophy also draws its inspiration from the work of people like Ian C. MacMillan and Rita Gunther McGrath who developed a technique called discovery-driven planning, which was an attempt to bring an entrepreneurial mindset to planning.

In 2008, Ries took the advice of his mentors and developed the idea for the lean startup, using his personal experiences adapting lean management principles to the high-tech startup world. In September 2008, Ries first coined the term on his blog, *Startup Lessons Learned*, in a post titled "The lean startup."

Philosophy

Similar to the precepts of lean management, Ries' lean startup philosophy seeks to eliminate wasteful practices and increase value-producing practices during the product development phase so that startups can have a better chance of success without requiring large amounts of outside funding, elaborate business plans, or the perfect product. Ries believes that customer feedback during product development is integral to the lean startup process, and ensures that the producer does not invest time designing features or services that consumers do not want. This is done primarily through two processes, using key performance indicators and a continuous deployment process. Because startups typically cannot afford to have their entire investment depend upon the success of one single product launch, Ries maintains that by releasing a minimum viable product that is not yet finalized, the company can then make use of customer feedback to help further tailor their product to the specific needs of its customers.

The lean startup philosophy pushes web-based or technology-related startups away from the ideology of their dot-com era predecessors in order to achieve cost-effective production by building a minimum viable product and gauging customer feedback. Ries asserts that the "lean has nothing to do with how much money a company raises," rather it has everything to do with assessing the specific demands of consumers and how to meet that demand using the least amount of resources possible.

Definitions

Definitions Based on The Lean Startup

In his blog and book, Ries uses specific terminology relating to the core lean startup principles.

Minimum Viable Product

A minimum viable product (MVP) is the "version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort" (similar to a pilot experiment). The goal of an MVP is to test fundamental business hypotheses (or leap-of-faith assumptions) and to help entrepreneurs begin the learning process as quickly as possible. As an example, Ries notes that Zappos founder Nick Swinmurn wanted to test the hypothesis that customers were ready and willing to buy shoes online. Instead of building a website and a large database of footwear, Swinmurn approached local shoe stores, took pictures of their inventory, posted the pictures online, bought the shoes from the stores at full price after he'd made a sale, and then shipped them directly to customers. Swinmurn deduced that customer demand was present, and Zappos would eventually grow into a billion dollar business based on the model of selling shoes online.

Continuous Deployment (Only for Software Development)

Continuous deployment, similar to continuous delivery, is a process "whereby all code that is written for an application is immediately deployed into production," which results in a reduction of cycle times. Ries states that some of the companies he's worked with deploy new code into production as often as 50 times a day. The phrase was coined by Timothy Fitz, one of Ries's colleagues and an early engineer at IMVU.

Split Testing

A split or A/B test is an experiment in which "different versions of a product are offered to customers at the same time." The goal of a split test is to observe differences in behavior between the two groups and to measure the impact of each version on an actionable metric.

A/B testing can also be performed in serial fashion where a group of users one week may see one version of the product while the next week users see another. This can be criticized in circumstances where external events may influence user behavior one time period but not the other. For example, a split test of two ice cream flavors performed in serial during the summer and winter would see a marked decrease in demand during the winter where that decrease is mostly related to the weather and not to the flavor offer.

Actionable Metrics

Actionable metrics can lead to informed business decisions and subsequent action. These are in contrast to vanity metrics—measurements that give "the rosiest picture possible" but do not accurately reflect the key drivers of a business.

Vanity metrics for one company may be actionable metrics for another. For example, a company specializing in creating web based dashboards for financial markets might view the number of web page views per person as a vanity metric as their revenue is not based on number of page views. However, an online magazine with advertising would view web page views as a key metric as page views are directly correlated to revenue.

A typical example of a vanity metric is 'the number of new users gained per day'. While a high number of users gained per day seems beneficial to any company, if the cost of acquiring each user through expensive advertising campaigns is significantly higher than the revenue gained per user, then gaining more users could quickly lead to bankruptcy.

Pivot

A pivot is a "structured course correction designed to test a new fundamental hypothesis about the product, strategy, and engine of growth." A notable example of a company employing the pivot is Groupon; when the company first started, it was an online activism platform called The Point. After receiving almost no traction, the founders opened a WordPress blog and launched their first coupon promotion for a pizzeria located in their building lobby. Although they only received 20 redemptions, the founders realized that their idea was significant, and had successfully empowered people to coordinate group action. Three years later, Groupon would grow into a billion dollar business.

Steve Blank defines a pivot as "changing (or even firing) the plan instead of the executive (the sales exec, marketing or even the CEO)."

Innovation Accounting

This topic focuses on how entrepreneurs can maintain accountability and maximize outcomes by measuring progress, planning milestones, and prioritizing.

Build–Measure–Learn

The Build–Measure–Learn loop emphasizes speed as a critical ingredient to product development. A team or company's effectiveness is determined by its ability to ideate, quickly build a minimum viable product of that idea, measure its effectiveness in the market, and learn from that experiment. In other words, it's a learning cycle of turning ideas into products, measuring customers' reactions and behaviors against built products, and then deciding whether to persevere or pivot the idea; this process repeats as many times as necessary. The phases of the loop are: Ideas → Build → Product → Measure → Data → Learn.

This rapid iteration allows teams to discover a feasible path towards product/market fit, and to continue optimizing and refining the business model after reaching product/market fit.

Definitions Popularized After The Lean Startup

Business Model Canvas

The Business Model Canvas is a strategic management template invented by Alexander Osterwalder and Yves Pigneur for developing new business models or documenting existing ones. It is a visual chart with elements describing a firm's value proposition, infrastructure, customers, and finances. It assists firms in aligning their activities by illustrating potential trade-offs.

Lean Canvas

The Lean Canvas is a version of the Business Model Canvas adapted by Ash Maurya specifically for startups. The Lean Canvas focuses on addressing broad customer problems and solutions and delivering them to customer segments through a unique value proposition.

The Book

Ries' book, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, was published in September 2011. Due to the popularity of the lean startup philosophy, the book was highly anticipated prior to its release, and quickly became a #2 New York Times bestseller. The book's popularity has helped to further promote the lean startup philosophy, which is used by both startups and more mature companies. Amazon.com listed the book as one of their Best Business Books of 2011, and as of June 2012 the book had sold 90,000 copies.

The Movement

After introducing the concept on his blog, *Startup Lessons Learned*, Ries' lean startup philosophy became widely popular within Silicon Valley tech startups. Ries now sits on many advisory boards for tech companies and investment funds, frequently gives interviews and presentations on the lean startup, and has also created his own annual technology conference called Startup Lessons Learned which has subsequently changed its name to the Lean Startup Conference.

Ries has traveled extensively to promote the lean startup philosophy at conferences, and estimates that lean startup meetups in cities around the world garner 20,000 regular participants. The first lean startup meetup named Lean Startup Circle was created by Rich Collins on June 26, 2009 hosting speaking events, workshops, and roundtable discussions. As of 2012, there are lean startup meetups in over 100 cities and 17 countries as well as an online discussion forum with over 5500 members. Third-party organizers have led lean startup meetups in San Francisco, Chicago, Boston, Austin, Beijing, Dublin, and Rio de Janeiro, among others—many of which are personally attended by Ries—with the Chicago and New York City Lean Startup Meetups attracting over 4,000 members each. The Lean Startup Machine created a new spin on the lean startup meetups by having attendees start a new company in three days. As of 2012, the Lean Startup Machine claimed to have created over 600 new startups this way.

Several prominent high-tech companies have begun to publicly employ the lean startup philosophy, including Intuit, Dropbox, Wealthfront, Votizen, Aardvark, and Grockit. The lean startup principles are also taught in classes at Harvard Business School and UC Berkeley and are implemented in municipal governments through Code for America.

In addition, the United States Government has recently begun to employ many of the lean startup ideas pioneered by Ries. The Federal Chief Information Officer of the United States, Steven VanRoekel noted that he is taking a "lean-startup approach to government." Ries has also worked with the former and current Chief Technology Officers of the United States—Aneesh Chopra and Todd Park respectively—to implement aspects of the lean startup model into the United States Government. In particular, Park noted that in order to understand customer demand, the Department of Health and Human Services, recognized "the need to rapidly prototype solutions, engage customers in those solutions as soon as possible, and then quickly and repeatedly iterate those solutions based on working with customers." In May 2012, Ries and The White House announced the Presidential Innovation Fellows program, which brings together top citizen innovators and government officials to work on high-level projects and deliver measurable results in six months.

In 2010, *The New York Times* noted that the lean startup is a "fresh approach to creating companies that has attracted much attention in the last year or so among Silicon Valley entrepreneurs, technologists and investors." *Portfolio.com* called 2011 "the year of the lean startup," and the same year *Fast Company* noted that the movement is "less about how to make web startups more successful and entrepreneurs richer than it is a fundamental reexamination of how to work in our complicated, faster-moving world." In 2013, an article in the *Harvard Business Review* explained "why the lean startup changes everything."

Lean Concepts

Lean startup principles have been applied to specific competencies within typical startups and larger organizations:

- Lean analytics
- Lean brand management
- Lean hardware
- Lean events
- Lean manufacturing
- Lean marketing
- Lean product management
- Lean sales
- Lean software development
- Lean UX

Criticism

Ben Horowitz, the co-founder of venture capital firm Andreessen Horowitz, wrote an article in 2010 criticizing the lean startup method for over-emphasizing "running lean" (constantly cutting and reducing non-essential parts of the company to save time and money). He specifically disagreed with portraying "running lean" as an end rather than a means to winning the market with-

out running out of cash. Horowitz gave as an example his startup Loudcloud, which by "running fat" was able to outperform 20 direct competitors and after 8 years reach a value of $1.6 billion. However, at least since 2008, numerous advocates of lean methods have pointed out that "running lean" does not mean cost cutting.

Trey Griffith, the VP of technology at Teleborder, stated in 2012 that the majority of backing for the lean startup methodology was anecdotal and had not been rigorously validated when first presented. However, he goes on to note that better support of the method comes out of a 2011 analysis of the factors of success in growth companies as described in the 2011 book *Great by Choice*.

John Finneran, a business writer and former user of the lean startup method, described in 2013 a number of the method's assumptions that he did not recognize during his use of the method. In particular, he observed that his clients were often not motivated to invest time and effort into helping iterate a minimal viable product; instead they wanted a more polished product to begin with. Second, he found virtually no early adopters who were willing to try to give feedback on unpolished software simply to be the first to get a chance at it. Third, he argued that lean startup can distract from essential traditional management practices like development discipline and budget protection. In general, he stated that it is important to be critical and skeptical of lean startup methods rather than pre-supposing that they will be effective. Ries had already anticipated this criticism in his book when he wrote, on page 279: "We cannot afford to have our success breed a new pseudoscience around pivots, MVPs, and the like. This was the fate of scientific management, and in the end, I believe, that set back its cause by decades." This implies that the concept of validated learning applies to the lean startup methods themselves, and not just to products.

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4

Entrepreneurship and Market Relations

The study of the entrepreneur and entrepreneurship within the economy is called entrepreneurial economics while the economic theory that emphasizes on entrepreneurship and innovation is innovation economics. This chapter focuses on entrepreneurial economics, innovation economics and entrepreneurial finance.

Entrepreneurial Economics

Entrepreneurial economics is the study of the entrepreneur and entrepreneurship within the economy. The accumulation of factors of production per se does not explain economic development. They are necessary inputs in production, but they are not sufficient for economic growth.

Human creativity and productive entrepreneurship are needed to combine these inputs in profitable ways, and an institutional environment that encourages free entrepreneurship becomes the ultimate determinant of economic growth. Thus, the entrepreneur and entrepreneurship should take center stage in any effort to explain long-term economic development. Early economic theory, however did not lay proper attention to the entrepreneur.

"The theoretical firm is entrepreneurless – the Prince of Denmark has been expunged from the discussion of Hamlet". This oft-quoted observation was made by William J. Baumol in the *American Economic Review*. The article was a prod to the economics profession to attend to this neglected factor.

If entrepreneurship remains as important to the economy as ever, then the continuing failure of mainstream economics to adequately account for entrepreneurship indicates that fundamental principles require re-evaluation. The characteristics of an entrepreneurial economy are high levels of innovation combined with high level of entrepreneurship, which result in the creation of new ventures as well as new sectors and industries.

Entrepreneurship is difficult to analyse using the traditional tools of economics e.g. calculus and general equilibrium models. Current textbooks have only a passing reference to the concept of entrepreneurship and the entrepreneur. Equilibrium models are central to mainstream economics, and exclude entrepreneurship.

Coase believed that economics has become a "theory-driven" subject that has moved into a paradigm in which conclusions take precedence over problems. "If you look at a page of a scientific journal like Nature," he said, "every few weeks you have statements such as, 'We'll have to think it out again. These results aren't going the way we thought they would.' Well, in economics, the results always go the way we thought they would because we approach the problems in the same

way, only asking certain questions. Entrepreneurial Economics challenges fundamental principles, using insights from models and theories in the natural sciences."

Studies about entrepreneurs in Economics, Psychology and Sociology largely relate to four major currents of thought. Early thinkers such as Max Weber emphasized its occurrence in the context of a religious belief system, thereby suggesting that some belief systems do not encourage entrepreneurship. This contention has, however, been challenged by many sociologists. Some thinkers such as K Samuelson believe that there is no relationship between religion, economic development and entrepreneurship. Karl Marx considered the economic system and mode of production as its sole determinants. Weber suggested a direct relation between the ethics and economic system as both interacted intensively.

Another current of thought underscores the motivational aspects of personal achievement. This overemphasized the individual and his values, attitudes and personality. This thought, however, has been severely criticized by many scholars such as Kilby (1971) and Kunkel (1971).

Economic Functions of the Entrepreneur

Frank Knight

Frank Knight saw the entrepreneur as someone who undertakes business decisions under conditions of 'uncertainty'. Knightian uncertainty exists where there is no basis for objective probabilities, so that it is unmeasureable and decisions have to be made using subjective judgment. The entrepreneur earns economic profits as a reward for good judgment. Entrepreneurs are seen as being confident and venturesome.

Schumpeter

Schumpeter's concept is a synthesis of three different notions of the entrepreneur: risk bearer, innovator and a coordinator cum manager. He assigned the role of innovator to the entrepreneur, driving economic growth through a process of creative destruction, and not to the capitalist. Capitalists supply capital while entrepreneurs innovate. He stated that 'whatever the type, everyone is an entrepreneur only when he actually carries out a new combination and loses that character as soon as he has built up his business, when he settles to running it as other people run their business'. The focus here is not on a category of person, but on a function. He was perhaps influenced by his family history.

The Schumpeterian entrepreneur disrupts existing equilibrium. Innovation is a chaotic, unpredictable economic process, which cannot be modeled using the equilibrium based analytic methods used in mainstream economic theory.

Israel Kirzner

Israel Kirzner, an economist of the Austrian School, sees the entrepreneur as an arbitrageur who is alert to opportunities for profit which exist due to market disequilibrium.

Harvey Leibenstein

Harvey Leibenstein claimed that entrepreneurship is a creative response to x-inefficiency. Entre-

preneurs are also gap-fillers, having the ability to perceive market opportunities and to develop new goods/services that are not currently being supplied. He postulates that entrepreneurs have the special ability to connect markets and make up for market deficiencies. Additionally, drawing from the theories of J.B. Say and Richard Cantillon, Leibenstein suggests that entrepreneurs have the ability to combine various inputs into new innovations in order to satisfy unfulfilled market demand.

Baumol

Baumol has argued that entrepreneurship can be either productive or unproductive. Unproductive entrepreneurs may pursue economic rents or crime. Societies differ significantly in how they allocate entrepreneurial activities between the two forms of entrepreneurship, depending on the 'rules of the game' such as the laws in each society.

Innovation Economics

Innovation economics is a growing economic theory that emphasizes entrepreneurship and innovation. Innovation economics is based on two fundamental tenets: that the central goal of economic policy should be to spur higher productivity through greater innovation, and that markets relying on input resources and price signals alone will not always be as effective in spurring higher productivity, and thereby economic growth.

This is in contrast to the two other conventional economic doctrines, neoclassical economics and Keynesian economics.

Historical Origins

Joseph Schumpeter was one of the first and most important scholars who extensively has tackle the question of innovation in Economics. In contrast to his contemporary John Maynard Keynes, Schumpeter contended that evolving institutions, entrepreneurs, and technological change were at the heart of economic growth, not independent forces that are largely unaffected by policy. He argued that "capitalism can only be understood as an evolutionary process of continuous innovation and 'creative destruction'".

But it is only within the last 15 years that a theory and narrative of economic growth focused on innovation that was grounded in Schumpeter's ideas has emerged. Innovation economics attempted to answer the fundamental problem in the puzzle of total factor productivity growth. Continual growth of output could no longer be explained only in increase of inputs used in the production process as understood in industrialization. Hence, innovation economics focused on a theory of economic creativity that would impact the theory of the firm and organization decision-making. Hovering between heterodox economics that emphasized the fragility of conventional assumptions and orthodox economics that ignored the fragility of such assumptions, innovation economics aims for joint didactics between the two. As such, it enlarges the Schumpeterian analyses of new technological system by incorporating new ideas of information and communication technology in the global economy.

Indeed, a new theory and narrative of economic growth focused on innovation has emerged in the last decade. Innovation economics emerges on the wage of other schools of thoughts in economics, including new institutional economics, new growth theory, endogenous growth theory, evolutionary economics, neo-Schumpeterian economics—provides an economic framework that explains and helps support growth in today's knowledge economy.

Leading theorists of innovation economics include both formal economists, as well as management theorists, technology policy experts, and others. These include Paul Romer, Elhanan Helpman, W. Brian Arthur, Robert Axtell, Richard R. Nelson, Richard Lipsey, Michael Porter, Christopher Freeman.

Theory

Innovation economists believe that what primarily drives economic growth in today's knowledge-based economy is not capital accumulation, as claimed by neoclassicalism asserts, but innovative capacity spurred by appropriable knowledge and technological externalities. Economics growth in innovation economics is the end-product of knowledge (tacit vs. codified); regimes and policies allowing for entrepreneurship and innovation (i.e., R&D expenditures, permits, licenses); technological spillovers and externalities between collaborative firms; and systems of innovation that create innovative environments (i.e., clusters, agglomerations, metropolitan areas).

In 1970, economist Milton Friedman said in the *New York Times* that a business's sole purpose is to generate profits for their shareholders and companies that pursued other missions would be less competitive, resulting in fewer benefits to owners, employees, and society. Yet data over the past several decades shows that while profits matter, good firms supply far more, particularly in bringing innovation to the market. This fosters economic growth, employment gains, and other society-wide benefits. Business school professor David Ahlstrom asserts: "the main goal of business is to develop new and innovative goods and services that generate economic growth while delivering benefits to society."

In contrast to neoclassical economics, innovation economics offer differing perspectives on main focus, reasons for economic growth, and the assumptions of context between economic actors:

Economic thought	Focus	Growth	Context
Neoclassical	Market price signals in using scarce resources	Productive factor accumulation (capital, labor)	Individuals and firms behaving in vacuum
Innovation	Innovative capacity to create more effective processes, products, business models	Knowledge/technology (R&D, patents)	Institutions of research, government, society

Despite the differences in economic thought, both perspectives are based on the same core premise: the foundation of all economic growth is the optimization of the utilization of factors and the measure of success is how well the factor utilization is optimized. Whatever the factors, it nonetheless leads to the same situation of special endowments, varying relative prices, and production processes. So while, the two differ in theoretical concepts, innovation economics can find fertile ground in mainstream economics, rather than remain in diametric contention.

Evidence

Empirical evidence worldwide points to a positive link between technological innovation and eco-

nomic performance. The drive of biotech firms in Germany was due to the R&D subsidies to joint projects, network partners, and close cognitive distance of collaborative partners within a cluster. These factors increased patent performance in the biotech industry. Additionally, innovation capacity explains much of the GDP growth in India and China between 1981–2004 but especially in the 1990s. Their development of a National Innovation System through heavy investment of R&D expenditures and personnel, patents, and high-tech/service exports strengthened their innovation capacity. By linking the science sector with the business sector, establishing incentives for innovative activities, and balancing the import of technology and indigenous R&D effort, both countries experienced rapid economic growth in recent decades. Also, the Council of Foreign Relations asserted that since the end of the 1970s, the U.S. has gained a disproportionate share of the world's wealth through their aggressive pursuit of technological change, demonstrating that technological innovation is a central catalyst of steady economic performance. Concisely, evidence shows that innovation contributes to steady economic growth and rise in per capita income.

However, some empirical studies investigating the innovation-performance-link lead to rather mixed results and indicate that the relationship be more subtle and complex than commonly assumed. In particular, the relationship between innovativeness and performance seems to differ in intensity and significance across empirical contexts, environmental circumstances, and conceptual dimensions.

All of the above has taken place in an era of data constraint, as identified by Zvi Griliches twenty years ago. Because the primary domain of innovation is commerce the key data resides there; continually out of campus reach in reports hidden within factories, corporate offices and technical centers. This recusal still stymies progress today. Recent attempts at data transference have led, not least, to the 'positive link' (above) being upgraded to exact algebra between R&D productivity and GDP allowing prediction from one to the other. This is pending further disclosure from commercial sources but several pertinent documents are already available.

Geography

While innovation is important, it is not a happenstance occurrence as a natural harbor or natural resources are, but a deliberate, concerted effort of markets, institutions, policymakers, and effect use of geographic space. In global economic restructuring, location has become a key element in establishing competitive advantage as regions focus on their unique assets to spur innovation (i.e., information technology in Silicon Valley, CA; digital media in Seoul, South Korea). Even more, thriving metropolitan economies that carry multiple clusters (i.e., Tokyo, Chicago, London) essentially fuel national economies through their pools of human capital, innovation, quality places, and infrastructure. Cities become "innovative spaces" and "cradles of creativity" as drivers of innovation. They become essential to the system of innovation through the supply side: ready, available, abundant capital and labor; good infrastructure for productive activities, and diversified production structures that spawn synergies and hence innovation. In addition they grow due to the demand side: diverse population of varying occupations, ideas, skills; high and differentiated level of consumer demand; and constant recreation of urban order especially infrastructure of streets, water systems, energy, and transportation.

Worldwide Examples

- semiconductors and information technology in Silicon Valley in California

- high-technology and life sciences in Research Triangle Park in North Carolina
- energy companies in Energy Corridor in Houston, Texas
- financial products and services in New York City
- biotechnology in Genome Valley in Hyderabad, India and Boston, Massachusetts
- nanotechnology in Tech Valley, New York (College of Nanoscale Science and Engineering)
- precision engineering in South Yorkshire, United Kingdom
- petrochemical complexes in Rio de Janeiro, Brazil
- train locomotive and rolling stock manufacturing in Beijing, China
- automotive engineering in Baden-Württemberg, Germany
- digital media technologies in Digital Media City in Seoul, South Korea

Entrepreneurial Finance

Entrepreneurial finance is the study of value and resource allocation, applied to new ventures. It addresses key questions which challenge all entrepreneurs: how much money can and should be raised; when should it be raised and from whom; what is a reasonable valuation of the startup; and how should funding contracts and exit decisions be structured.

The Problem

Many entrepreneurs discover they need to attract money to fully commercialize their concepts. Thus they must find investors – such as their own employer, a bank, an angel investor, a venture capital fund, a public stock offering or some other source of financing. When dealing with most classic sources of founding, entrepreneurs face numerous challenges: scepticism towards the business and financial plans, requests for large equity stakes, tight control and managerial influence and limited understanding of the characteristic growth process that start-ups experience.

On the other hand, entrepreneurs must understand the four basic problems that can limit investors' willingness to invest capital:

- Uncertainty about the future: in terms of start-ups development possibilities, market and industry trends. The greater the uncertainty of a venture or project, the greater the distribution of possible outcomes.
- Information gaps: differences in what various players know about a company's investment decisions.
- "Soft Assets": these assets are unique and rarely have markets that allow for the measure of their value. Thus, lenders are less willing to provide credit against such an asset.
- Volatility of current market conditions: financial and product markets can change overnight, affecting a venture's current value and its potential profitability.

History

Venture capital as the business of investing in new or young companies with innovative ideas emerged as a prominent branch of Entrepreneurial finance in the beginning of the 20th century. Wealthy families such as the Vanderbilt family, the Rockefeller family and the Bessemer family began private investing in private companies. One of the first venture capital firms, J.H. Whitney & Company, was founded in 1946 and is still in business today. The formation of the American Research and Development Foundation (ARDC) by General Georges F. Doriot institutionalized venture capital after the Second World War. In 1958, the Small Business Investment Companies (SBIC) license enabled finance companies to leverage federal US funds to lend to growing companies. Further regulatory changes in the USA –namely the reduction of capital gains tax and the ERISA pension reforms- boosted venture capital in the 1970s. During the 1980s and 1990s, the venture capital industry grew in importance and experienced high volatility in returns. Despite this cyclicality and crisis such as Dot Com; venture capital has consistently performed better than most other financial investments and continues to attract new investors.

Sources of Entrepreneurial Financing

Financial Bootstrapping

Financial Bootstrapping is a term used to cover different methods for avoiding using the financial resources of external investors. It involves risks for the founders but allows for more freedom to develop the venture. Different types of financial bootstrapping include Owner financing, Sweat equity, Minimization of accounts payable, joint utilization, minimization of inventory, delaying payment, subsidy finance and personal debt.

External Financing

Businesses often need more capital than owners are able to provide. Hence, they source financing from external investors: angel investment, venture capital, as well as with less prevalence crowd funding, hedge funds and alternative asset management. While owning equity in a private company may be generally grouped under the term private equity, this term is often used to describe growth, buyout or turnaround investments in traditional sectors and industries.

Business Angels

A business angel is a private investor that invests part of his or her own wealth and time in early-stage innovative companies. Apart from getting a good return, business angels expect to have fun. It is estimated that angel investment amounts to three times venture capital. Its beginnings can be traced to Frederick Terman, widely credited to be the “Father of Silicon Valley” (together with William Shockley), who invested $500 to help starting up the venture of Bill Hewlett and Fred Packard.

Venture Capital

Venture capital is a way of corporate financing by which a financial investor takes participation in the capital of a new or young private company in exchange for cash and strategic advice. Venture capital investors look for fast-growing companies with low leverage capacity and high-performing

management teams. Their main objective is to make a profit by selling the stake in the company in the medium term. They expect profitability higher than the market to compensate for the increased risk of investing in young ventures.

Key differences between business angels and venture capital:

- Own money (BA) vs. other people's money (VC)
- Fun + profit vs. profit
- Lower vs. higher expected IRR
- Very early stage vs. start-up or growth stage
- Longer investment period vs. shorter investment horizon

Buyouts

Buyouts are forms of corporate finance used to change the ownership or the type of ownership of a company through a variety of means. Once the company is private and freed from some of the regulatory and other burdens of being a public company, the central goal of buyout is to discover means to build this value*. This may include refocusing the mission of the company, selling off non-core assets, freshening product lines, streamlining processes and replacing existing management. Companies with steady, large cash flows, established brands and moderated growth are typical targets of buyouts.

There are several variations of buyouts:

- Leveraged buyout (LBO): combination of debt and equity financing. The intention is to unlock hidden value through the addition of substantial amounts of debt to the balance sheet of the company.
- Management buyout (MBO), Management buy in (MBI) and Buy in management buyout (BIMBO): private equity becomes the sponsor of a management team that has identified a business opportunity with a price well above the team's wealth. The difference is in the position of the purchaser: the management is already working for the company (MBO), the management is new (MBI) or a combination (BIMBO).
- Buy and built (B&B): the acquisition of several small companies with the objective of creating a leader (highly fragmented sectors such as supermarkets, gyms, schools, private hospitals).
- Recaps: re-leveraging of a company that has repaid much of its LBO debt.
- Secondary Buyout (SBO): sale of LBO-company to another private equity firm.
- Public-to-private (P2P, PTOP): takeover of public company that has been 'punished' by the market, i.e. its price does not reflect the true value.

Entrepreneurial Financial Planning

Importance

Financial planning allows entrepreneurs to estimate the quantity and the timing of money needed

to start their venture and keep it running.

The key questions for an Entrepreneur are:

- Is it worthy to invest time and money in this business?
- What is the cash burn rate?
- How to minimize dilution by external investors?
- Scenario analysis and contingency plan?

A start-up's Chief Financial Officer (CFO) assumes the key role of entrepreneurial financial planning. In contrast to established companies, the start-up CFO takes a more strategic role and focuses on milestones with given cash resources, changes in valuation depending on their fulfilment, risks of not meeting milestones and potential outcomes and alternative strategies.

Determination of the Financial Need of a Start-up

The first step in raising capital is to understand how much capital you need to raise. Successful businesses anticipate their future cash needs, make plans and execute capital acquisition strategies well before they find themselves in a cash crunch.

Three axioms guide start-up fund raising:

- As businesses grow, they often go through several rounds or stages of financing. These rounds are targeted to specific phases of the company's growth and require different strategies and types of investors.
- Raising capital is an on-going issue for every venture.
- Capital acquisition takes time and needs to be planned accordingly.

Four critical determinants of the financial need of a venture are generally distinguished:

- Determination of projected sales, their growth and the profitability level
- Calculation of start-up costs (one-time costs)
- Estimation of recurring costs
- Projection of working capital (inventory, credit and payment policies. This determines the cash needed to maintain the day-to-day business)

Typically, venture capitalists are part of a fund. Their average size in Europe includes five investment professionals and two supports. They generate income through management fees (on average 2.5% annual commission) and carried interest ("Carry", on average 20-30% of the profits of the fund).

Valuation in Entrepreneurial Finance

Financial planning also helps to determine the value of a venture and serves as an important marketing tool towards prospective investors.

Traditional valuation techniques based on accounting, discounting cash flows (Discounted cash flow, DCF) or multiples do not reflect the specific characteristics of a start-up. Instead, the venture capital method, the First Chicago or the fundamental methods are usually applied.

Venture Capital Method

To determine the future value of a start-up, a venture capital investor is guided by the question: What percentage of the portfolio company should I have at exit to guarantee that I get the IRR committed with my investors?

The valuation of the future company can be broken down into four steps:

- Determination of company's value at exit
- Requested fraction (percentage) of the VC at exit?
- Number of shares to be bought in the current round of financing to get the desired percentage of the company
- Estimation of maximum price per share willing to pay in current round of financing

Usually there is more than one round of financing. Venture capital investors generally prefer staged investments to reduce the money invested at the higher risk and control entrepreneurs via milestones. Entrepreneurs benefit from dilution in future rounds by reducing the price of the shares to be exchanged for financing.

University Education

Entrepreneurial finance courses are offered in different universities, for example at Babson College, the Stern School of Business, the Kellogg School of Management and ESADE. Special centers to promote entrepreneurship within universities also cover finance topics, for example the Center for International Development at Harvard University, which works to generate shared and sustainable prosperity in developing economies

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5

Innovative Strategies Used in Entrepreneurship

Innovation, disruptive innovation, eco-innovation, induced innovation are some of the innovative strategies used in entrepreneurship. Innovation is defined as a new idea, device or a method. This chapter explains to the reader strategies used by entrepreneurs and helps them develop a better understanding.

Innovation

Innovation is defined simply as a "new idea, device, or method". However, innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs. This is accomplished through more-effective products, processes, services, technologies, or business models that are readily available to markets, governments and society. The term "innovation" can be defined as something original and more effective and, as a consequence, new, that "breaks into" the market or society. It is related to, but not the same as, invention.

While a novel device is often described as an innovation, in economics, management science, and other fields of practice and analysis, innovation is generally considered to be the result of a process that brings together various novel ideas in a way that they affect society. In industrial economics, innovations are created and found empirically from services to meet the growing consumer demand.

Definition

In a survey of literature on innovation, Edison et al. found over 40 definitions. They also performed an industrial survey to capture how innovation is defined in the software industry. After analysis of the existing definitions whether these definitions comprehensively cover all the dimensions of innovation, they found the following definition to be the most complete: *"Innovation is: production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome."*. This definition was given by Crossan and Apaydin and it builds on the OECD manual's definition.

Edison et al. also found two interesting dimensions of innovation including: degree of novelty (i.e. whether an innovation is new to the firm, new to the market, new to the industry, and new to the world) and type of innovation (whether it is process or product/service innovation).

Inter-Disciplinary Views

Business and Economics

In business and economics, innovation can be a catalyst to growth. With rapid advancements in transportation and communications over the past few decades, the old world concepts of factor endowments and comparative advantage which focused on an area's unique inputs are outmoded for today's global economy. Economist Joseph Schumpeter, who contributed greatly to the study of innovation economics, argued that industries must incessantly revolutionize the economic structure from within, that is innovate with better or more effective processes and products, as well as market distribution, such as the connection from the craft shop to factory. He famously asserted that "creative destruction is the essential fact about capitalism". In addition, entrepreneurs continuously look for better ways to satisfy their consumer base with improved quality, durability, service, and price which come to fruition in innovation with advanced technologies and organizational strategies.

One prime example was the explosive boom of Silicon Valley startups out of the Stanford Industrial Park. In 1957, dissatisfied employees of Shockley Semiconductor, the company of Nobel laureate and co-inventor of the transistor William Shockley, left to form an independent firm, Fairchild Semiconductor. After several years, Fairchild developed into a formidable presence in the sector. Eventually, these founders left to start their own companies based on their own, unique, latest ideas, and then leading employees started their own firms. Over the next 20 years, this snowball process launched the momentous startup company explosion of information technology firms. Essentially, Silicon Valley began as 65 new enterprises born out of Shockley's eight former employees. Since then, hubs of innovation have sprung up globally with similar metonyms, including Silicon Alley encompassing New York City.

Organizations

In the organizational context, innovation may be linked to positive changes in efficiency, productivity, quality, competitiveness, and market share. However, recent research findings highlight the complementary role of organizational culture in enabling organizations to translate innovative activity into tangible performance improvements. Organizations can also improve profits and performance by providing work groups opportunities and resources to innovate, in addition to employee's core job tasks. Peter Drucker wrote:

> "Innovation is the specific function of entrepreneurship, whether in an existing business, a public service institution, or a new venture started by a lone individual in the family kitchen. It is the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth." –Drucker

According to Clayton Christensen, disruptive innovation is the key to future success in business. The organisation requires a proper structure in order to retain competitive advantage. It is necessary to create and nurture an environment of innovation. Executives and managers need to break away from traditional ways of thinking and use change to their advantage. It is a time of risk but even greater opportunity. The world of work is changing with the increase in the use of technology and both companies and businesses are becoming increasingly competitive. Companies will have

to downsize and re-engineer their operations to remain competitive. This will affect employment as businesses will be forced to reduce the number of people employed while accomplishing the same amount of work if not more.

All organizations can innovate, including for example hospitals, universities, and local governments. For instance, former Mayor Martin O'Malley pushed the City of Baltimore to use CitiStat, a performance-measurement data and management system that allows city officials to maintain statistics on crime trends to condition of potholes. This system aids in better evaluation of policies and procedures with accountability and efficiency in terms of time and money. In its first year, CitiStat saved the city $13.2 million. Even mass transit systems have innovated with hybrid bus fleets to real-time tracking at bus stands. In addition, the growing use of mobile data terminals in vehicles, that serve as communication hubs between vehicles and a control center, automatically send data on location, passenger counts, engine performance, mileage and other information. This tool helps to deliver and manage transportation systems.

Still other innovative strategies include hospitals digitizing medical information in electronic medical records. For example, the U.S. Department of Housing and Urban Development's HOPE VI initiatives turned severely distressed public housing in urban areas into revitalized, mixed-income environments; the Harlem Children's Zone used a community-based approach to educate local area children; and the Environmental Protection Agency's brownfield grants facilitates turning over brownfields for environmental protection, green spaces, community and commercial development.

Sources of Innovation

There are several sources of innovation. It can occur as a result of a focus effort by a range of different agents, by chance, or as a result of a major system failure.

According to Peter F. Drucker, the general sources of innovations are different changes in industry structure, in market structure, in local and global demographics, in human perception, mood and meaning, in the amount of already available scientific knowledge, etc.

Original model of three phases of the process of Technological Change

In the simplest linear model of innovation the traditionally recognized source is *manufacturer innovation*. This is where an agent (person or business) innovates in order to sell the innovation.

Another source of innovation, only now becoming widely recognized, is *end-user innovation*. This is where an agent (person or company) develops an innovation for their own (personal or in-house) use because existing products do not meet their needs. MIT economist Eric von Hippel has identified end-user innovation as, by far, the most important and critical in his classic book on the subject, *The Sources of Innovation*.

The robotics engineer Joseph F. Engelberger asserts that innovations require only three things:

1. A recognized need,
2. Competent people with relevant technology, and
3. Financial support.

However, innovation processes usually involve: identifying customer needs, macro and meso trends, developing competences, and finding financial support.

The Kline chain-linked model of innovation places emphasis on potential market needs as drivers of the innovation process, and describes the complex and often iterative feedback loops between marketing, design, manufacturing, and R&D.

Innovation by businesses is achieved in many ways, with much attention now given to formal research and development (R&D) for "breakthrough innovations". R&D help spur on patents and other scientific innovations that leads to productive growth in such areas as industry, medicine, engineering, and government. Yet, innovations can be developed by less formal on-the-job modifications of practice, through exchange and combination of professional experience and by many other routes. The more radical and revolutionary innovations tend to emerge from R&D, while more incremental innovations may emerge from practice – but there are many exceptions to each of these trends.

Information technology and changing business processes and management style can produce a work climate favorable to innovation. For example, the software tool company Atlassian conducts quarterly "ShipIt Days" in which employees may work on anything related to the company's products. Google employees work on their own projects for 20% of their time (known as Innovation Time Off). Both companies cite these bottom-up processes as major sources for new products and features.

An important innovation factor includes customers buying products or using services. As a result, firms may incorporate users in focus groups (user centred approach), work closely with so called lead users (lead user approach) or users might adapt their products themselves. The lead user method focuses on idea generation based on leading users to develop breakthrough innovations. U-STIR, a project to innovate Europe's surface transportation system, employs such workshops. Regarding this user innovation, a great deal of innovation is done by those actually implementing and using technologies and products as part of their normal activities. In most of the times user innovators have some personal record motivating them. Sometimes user-innovators may become entrepreneurs, selling their product, they may choose to trade their innovation in exchange for other innovations, or they may be adopted by their suppliers. Nowadays, they may also choose to freely reveal their innovations, using methods like open source. In such networks of innovation the users or communities of users can further develop technologies and reinvent their social meaning.

Goals and Failures

Programs of organizational innovation are typically tightly linked to organizational goals and objectives, to the business plan, and to market competitive positioning. One driver for innovation programs in corporations is to achieve growth objectives. As Davila et al. (2006) notes, "Compa-

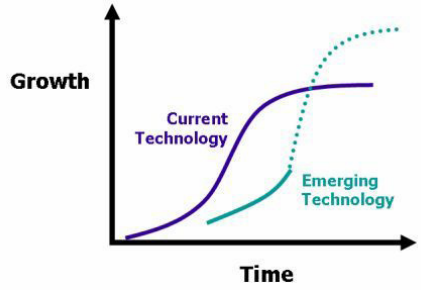
nies cannot grow through cost reduction and reengineering alone... Innovation is the key element in providing aggressive top-line growth, and for increasing bottom-line results".

One survey across a large number of manufacturing and services organizations found, ranked in decreasing order of popularity, that systematic programs of organizational innovation are most frequently driven by: Improved quality, Creation of new markets, Extension of the product range, Reduced labor costs, Improved production processes, Reduced materials, Reduced environmental damage, Replacement of products/services, Reduced energy consumption, Conformance to regulations.

These goals vary between improvements to products, processes and services and dispel a popular myth that innovation deals mainly with new product development. Most of the goals could apply to any organisation be it a manufacturing facility, marketing firm, hospital or local government. Whether innovation goals are successfully achieved or otherwise depends greatly on the environment prevailing in the firm.

Conversely, failure can develop in programs of innovations. The causes of failure have been widely researched and can vary considerably. Some causes will be external to the organization and outside its influence of control. Others will be internal and ultimately within the control of the organization. Internal causes of failure can be divided into causes associated with the cultural infrastructure and causes associated with the innovation process itself. Common causes of failure within the innovation process in most organizations can be distilled into five types: Poor goal definition, Poor alignment of actions to goals, Poor participation in teams, Poor monitoring of results, Poor communication and access to information.

Diffusion



Diffusion of innovation research was first started in 1903 by seminal researcher Gabriel Tarde, who first plotted the S-shaped diffusion curve. Tarde (1903) defined the innovation-decision process as a series of steps that includes:

1. First knowledge
2. Forming an attitude
3. A decision to adopt or reject
4. Implementation and use
5. Confirmation of the decision

Once innovation occurs, innovations may be spread from the innovator to other individuals and groups. This process has been proposed that the life cycle of innovations can be described using the 's-curve' or diffusion curve. The s-curve maps growth of revenue or productivity against time. In the early stage of a particular innovation, growth is relatively slow as the new product establishes itself. At some point customers begin to demand and the product growth increases more rapidly. New incremental innovations or changes to the product allow growth to continue. Towards the end of its lifecycle, growth slows and may even begin to decline. In the later stages, no amount of new investment in that product will yield a normal rate of return

The s-curve derives from an assumption that new products are likely to have "product life"—i.e., a start-up phase, a rapid increase in revenue and eventual decline. In fact the great majority of innovations never get off the bottom of the curve, and never produce normal returns.

Innovative companies will typically be working on new innovations that will eventually replace older ones. Successive s-curves will come along to replace older ones and continue to drive growth upwards. In the figure above the first curve shows a current technology. The second shows an emerging technology that currently yields lower growth but will eventually overtake current technology and lead to even greater levels of growth. The length of life will depend on many factors.

Measures

Henry et al. in their review of literature on innovation management found 232 innovation metrics. They categorized these measures along five dimensions i.e. inputs to the innovation process, output from the innovation process, effect of the innovation output, measures to assess the activities in an innovation process and availability of factors that facilitate such a process.

There are two different types of measures for innovation: the organizational level and the political level.

Organizational Level

The measure of innovation at the organizational level relates to individuals, team-level assessments, and private companies from the smallest to the largest company. Measure of innovation for organizations can be conducted by surveys, workshops, consultants, or internal benchmarking. There is today no established general way to measure organizational innovation. Corporate measurements are generally structured around balanced scorecards which cover several aspects of innovation such as business measures related to finances, innovation process efficiency, employees' contribution and motivation, as well benefits for customers. Measured values will vary widely between businesses, covering for example new product revenue, spending in R&D, time to market, customer and employee perception & satisfaction, number of patents, additional sales resulting from past innovations.

Political Level

For the political level, measures of innovation are more focused on a country or region compet-

itive advantage through innovation. In this context, organizational capabilities can be evaluated through various evaluation frameworks, such as those of the European Foundation for Quality Management. The OECD Oslo Manual (1995) suggests standard guidelines on measuring technological product and process innovation. Some people consider the Oslo Manual complementary to the Frascati Manual from 1963. The new Oslo manual from 2005 takes a wider perspective to innovation, and includes marketing and organizational innovation. These standards are used for example in the European Community Innovation Surveys.

Other ways of measuring innovation have traditionally been expenditure, for example, investment in R&D (Research and Development) as percentage of GNP (Gross National Product). Whether this is a good measurement of innovation has been widely discussed and the Oslo Manual has incorporated some of the critique against earlier methods of measuring. The traditional methods of measuring still inform many policy decisions. The EU Lisbon Strategy has set as a goal that their average expenditure on R&D should be 3% of GDP.

Indicators

Many scholars claim that there is a great bias towards the "science and technology mode" (S&T-mode or STI-mode), while the "learning by doing, using and interacting mode" (DUI-mode) is widely ignored. For an example, that means you can have the better high tech or software, but there are also crucial learning tasks important for innovation. But these measurements and research are rarely done.

A common industry view (unsupported by empirical evidence) is that comparative cost-effectiveness research (CER) is a form of price control which, by reducing returns to industry, limits R&D expenditure, stifles future innovation and compromises new products access to markets. Some academics claim the CER is a valuable value-based measure of innovation which accords truly significant advances in therapy (those that provide "health gain") higher prices than free market mechanisms. Such value-based pricing has been viewed as a means of indicating to industry the type of innovation that should be rewarded from the public purse. The Australian academic Thomas Alured Faunce has developed the case that national comparative cost-effectiveness assessment systems should be viewed as measuring "health innovation" as an evidence-based concept distinct from valuing innovation through the operation of competitive markets (a method which requires strong anti-trust laws to be effective) on the basis that both methods of assessing innovation in pharmaceuticals are mentioned in annex 2C.1 of the AUSFTA.

Rate of Innovation

Innovation Indices

Several indices attempt to measure innovation and rank entities based on these measures, such as:

- The *Bloomberg Innovation Index*
- The *Bogota Manual*, similar to the Oslo Manual, is focused on Latin America and the Caribbean countries.

- The *Creative Class* developed by Richard Florida
- The *EIU Innovation Ranking*
- The *Global Competitiveness Report*
- The *Global Innovation Index* (GII), by INSEAD
- The *Information Technology and Innovation Foundation (ITIF) Index*
- The *Innovation Capacity Index (ICI)* published by a large number of international professors working in a collaborative fashion. The top scorers of ICI 2009–2010 were: 1. Sweden 82.2; 2. Finland 77.8; and 3. United States 77.5.
- The *Innovation Index*, developed by the Indiana Business Research Center, to measure innovation capacity at the county or regional level in the United States.
- The *Innovation Union Scoreboard*
- The *Innovations Indikator*
- The *INSEAD Innovation Efficacy Index* (aka the *INSEAD Innovation Efficiency Index*)
- The *International Innovation Index*, produced jointly by The Boston Consulting Group (BCG), the National Association of Manufacturers (NAM), and The Manufacturing Institute (MI) (the NAM's nonpartisan research affiliate), is a worldwide index measuring the level of innovation in a country. NAM describes it as the "largest and most comprehensive global index of its kind".
- The *Management Innovation Index - Model for Managing Intangibility of Organizational Creativity: Management Innovation Index*
- The *NYCEDC Innovation Index*, by the New York City Economic Development Corporation, tracks New York City's "transformation into a center for high-tech innovation. It measures innovation in the City's growing science and technology industries and is designed to capture the effect of innovation on the City's economy."
- The *Oslo Manual*, similar to the Bogota Manual, is focused on North America, Europe, and other rich economies.
- The *State Technology and Science Index*, developed by the Milken Institute, is a U.S.-wide benchmark to measure the science and technology capabilities that furnish high paying jobs based around key components.
- The *World Competitiveness Scoreboard*

Innovation Rankings

Many research studies try to rank countries based on measures of innovation. Common areas of focus include: high-tech companies, manufacturing, patents, post secondary education, research and development, and research personnel. The following is a ranking of the top 10 countries in the 2015 Bloomberg Innovation Index:

Rank	*Country/Territory*
1	South Korea
2	Japan
3	Germany
4	Finland
5	Israel
6	United States
7	Sweden
8	Singapore
9	France
10	United Kingdom

Future of Innovation

Jonathan Huebner, a physicist working at the Pentagon's Naval Air Warfare Center, argued on the basis of both U.S. patents and world technological breakthroughs, per capita, that the rate of human technological innovation peaked in 1873 and has been slowing ever since. In his article, he asked "Will the level of technology reach a maximum and then decline as in the Dark Ages?" In later comments to *New Scientist* magazine, Huebner clarified that while he believed that we will reach a rate of innovation in 2024 equivalent to that of the Dark Ages, he was not predicting the reoccurrence of the Dark Ages themselves.

His paper received some mainstream news coverage at the time.

The claim has been met with criticism by John Smart, who asserted that research by technological singularity researcher Ray Kurzweil and others showed a "clear trend of acceleration, not deceleration" when it came to innovations. The foundation issued a reply to Huebner in the pages of the journal his article was published in, citing the existence of Second Life and eHarmony as proof of accelerating innovation; Huebner also replied to this. However, in 2010, Joseph A. Tainter, Deborah Strumsky, and José Lobo confirmed Huebner's findings using U.S. Patent Office data. Additional verification was provided in a 2012 paper by Robert J. Gordon.

Innovation and International Development

The theme of innovation as a tool to disrupting patterns of poverty has gained momentum since the mid-2000s among major international development actors such as DFID, Gates Foundation's use of the Grand Challenge funding model, and USAID's Global Development Lab. Networks have been established to support innovation in development, such as D-Lab at MIT. Investment funds have been established to identify and catalyze innovations in developing countries, such as DFID's Global Innovation Fund, Human Development Innovation Fund, and (in partnership with USAID) the Global Development Innovation Ventures.

Government Policies

Given the noticeable effects on efficiency, quality of life, and productive growth, innovation is a key factor in society and economy. Consequently, policymakers have long worked to develop environments that will foster innovation and its resulting positive benefits, from funding Research and Development to supporting regulatory change, funding the development of innovation clusters, and using public purchasing and standardisation to 'pull' innovation through.

For instance, experts are advocating that the U.S. federal government launch a National Infrastructure Foundation, a nimble, collaborative strategic intervention organization that will house innovations programs from fragmented silos under one entity, inform federal officials on innovation performance metrics, strengthen industry-university partnerships, and support innovation economic development initiatives, especially to strengthen regional clusters. Because clusters are the geographic incubators of innovative products and processes, a cluster development grant program would also be targeted for implementation. By focusing on innovating in such areas as precision manufacturing, information technology, and clean energy, other areas of national concern would be tackled including government debt, carbon footprint, and oil dependence. The U.S. Economic Development Administration understand this reality in their continued Regional Innovation Clusters initiative. In addition, federal grants in R&D, a crucial driver of innovation and productive growth, should be expanded to levels similar to Japan, Finland, South Korea, and Switzerland in order to stay globally competitive. Also, such grants should be better procured to metropolitan areas, the essential engines of the American economy.

Many countries recognize the importance of research and development as well as innovation including Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT); Germany's Federal Ministry of Education and Research; and the Ministry of Science and Technology in the People's Republic of China. Furthermore, Russia's innovation programme is the Medvedev modernisation programme which aims at creating a diversified economy based on high technology and innovation. Also, the Government of Western Australia has established a number of innovation incentives for government departments. Landgate was the first Western Australian government agency to establish its Innovation Program. The Cairns Region established the Tropical Innovation Awards in 2010 open to all businesses in Australia. The 2011 Awards were extended to include participants from all Tropical Zone Countries.

Innovators

An innovator, in a general sense, is a person or an organization, who is one of the first to introduce into reality, something better than before. Something that opens up a new area for others, and achieves an innovation.

History

Some people that are often called innovators include:

- Isaac Newton - pioneered classical mechanics
- Albert Einstein - pioneered Relativity

- Steve Jobs - introduced first commercially successful personal computers, Graphical user interface PCs smartphones, tablet computers, first feature-length computer-animated film.
- Sir Richard Arkwright - credited for inventing spinning frame
- Wright Brothers - pioneered controlled flight
- Thomas Edison - developed the first economically feasible light bulb
- Dennis Ritchie - co-developer of the Unix operating system and authored the C programming language
- Karl Benz - developed the first automobile with internal combustion
- Henry Ford - pioneered mass-produced motor cars
- Isambard Kingdom Brunel - revolutionised public transport and engineering
- Nikola Tesla - pioneered the induction motor
- Robert H. Goddard - pioneered the liquid rocket engine
- Tim Berners Lee - pioneered the World Wide Web
- Benjamin Graham - economist and professional investor
- Woody Shaw - American trumpeter and composer referred to by NPR as "the last great trumpet innovator"

Disruptive Innovation

The free, online encyclopedia Wikipedia was a disruptive innovation that had a major impact on both the traditional, for-profit printed paper encyclopedia market (e.g., *Encyclopedia Britannica*) and the for-profit digital encyclopedia market (e.g.,Encarta). The English Wikipedia provides over 5 million articles for free; in constrast, a $1,000 set of Britannica volumes had 120,000 articles.

A *disruptive innovation* is an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market leading firms, products and alliances. The term was defined and phenomenon analyzed by Clayton M. Chris-

tensen beginning in 1995. In the early 2000s, "significant societal impact" has also been used as an aspect of disruptive innovation.

Not all innovations are disruptive, even if they are revolutionary. For example, the first automobiles in the late 19th century were not a disruptive innovation, because early automobiles were expensive luxury items that did not disrupt the market for horse-drawn vehicles. The market for transportation essentially remained intact until the debut of the lower-priced Ford Model T in 1908. The *mass-produced* automobile was a disruptive innovation, because it changed the transportation market, whereas the first thirty years of automobiles did not.

Disruptive innovations tend to be produced by outsiders and entrepreneurs, rather than existing market-leading companies. The business environment of market leaders does not allow them to pursue disruptive innovations when they first arise, because they are not profitable enough at first and because their development can take scarce resources away from sustaining innovations (which are needed to compete against current competition). A disruptive process can take longer to develop than by the conventional approach and the risk associated to it is higher than the other more incremental or evolutionary forms of innovations, but once it is deployed in the market, it achieves a much faster penetration and higher degree of impact on the established markets.

History and Usage of the Term

The term *disruptive technologies* was coined by Clayton M. Christensen and introduced in his 1995 article *Disruptive Technologies: Catching the Wave*, which he cowrote with Joseph Bower. The article is aimed at management executives who make the funding or purchasing decisions in companies, rather than the research community. He describes the term further in his book *The Innovator's Dilemma*. *Innovator's Dilemma* explored the cases of the disk drive industry (which, with its rapid generational change, is to the study of business what fruit flies are to the study of genetics, as Christensen was advised in the 1990s) and the excavating equipment industry (where hydraulic actuation slowly displaced cable-actuated movement). In his sequel with Michael E. Raynor, *The Innovator's Solution*, Christensen replaced the term *disruptive technology* with *disruptive innovation* because he recognized that few technologies are intrinsically disruptive or sustaining in character; rather, it is the *business model* that the technology enables that creates the disruptive impact. However, Christensen's evolution from a technological focus to a business-modelling focus is central to understanding the evolution of business at the market or industry level. Christensen and Mark W. Johnson, who cofounded the management consulting firm Innosight, described the dynamics of "business model innovation" in the 2008 *Harvard Business Review* article "Reinventing Your Business Model". The concept of disruptive technology continues a long tradition of identifying radical technical change in the study of innovation by economists, and the development of tools for its management at a firm or policy level.

In the late 1990s, the automotive sector began to embrace a perspective of "constructive disruptive technology" by working with the consultant David E. O'Ryan, whereby the use of current off-the-shelf technology was integrated with newer innovation to create what he called "an unfair advantage". The process or technology change as a whole had to be "constructive" in improving the current method of manufacturing, yet disruptively impact the whole of the business case model, resulting in a significant reduction of waste, energy, materials, labor, or legacy costs to the user.

In keeping with the insight that what matters economically is the business model, not the technological sophistication itself, Christensen's theory explains why many disruptive innovations are *not* "advanced technologies", which the technology mudslide hypothesis would lead one to expect. Rather, they are often novel combinations of existing off-the-shelf components, applied cleverly to a small, fledgling value network.

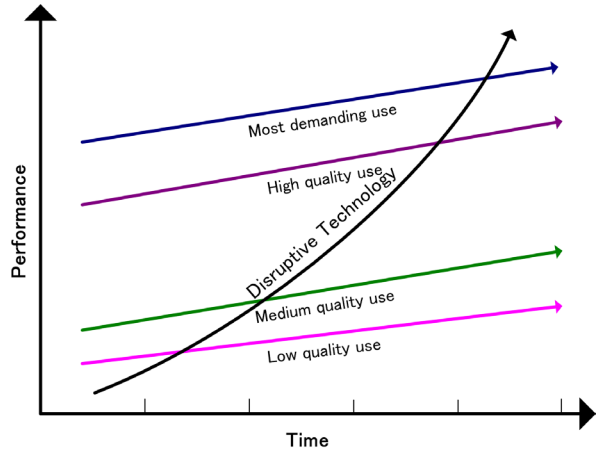
Theory

Christensen defines a disruptive innovation as a product or service designed for a new set of customers.

"Generally, disruptive innovations were technologically straightforward, consisting of off-the-shelf components put together in a product architecture that was often simpler than prior approaches. They offered less of what customers in established markets wanted and so could rarely be initially employed there. They offered a different package of attributes valued only in emerging markets remote from, and unimportant to, the mainstream."

Christensen argues that disruptive innovations can hurt successful, well-managed companies that are responsive to their customers and have excellent research and development. These companies tend to ignore the markets most susceptible to disruptive innovations, because the markets have very tight profit margins and are too small to provide a good growth rate to an established (sizable) firm. Thus, disruptive technology provides an example of an instance when the common business-world advice to "focus on the customer" (or "stay close to the customer", or "listen to the customer") can be strategically counterproductive.

While Christensen argued that disruptive innovations can hurt successful, well-managed companies, O'Ryan countered that "constructive" integration of existing, new, and forward-thinking innovation could improve the economic benefits of these same well-managed companies, once decision-making management understood the systemic benefits as a whole.



How low-end disruption occurs over time.

Christensen distinguishes between "low-end disruption", which targets customers who do not need the full performance valued by customers at the high end of the market, and "new-market disruption", which targets customers who have needs that were previously unserved by existing incumbents.

"Low-end disruption" occurs when the rate at which products improve exceeds the rate at which customers can adopt the new performance. Therefore, at some point the performance of the product overshoots the needs of certain customer segments. At this point, a disruptive technology may enter the market and provide a product that has lower performance than the incumbent but that exceeds the requirements of certain segments, thereby gaining a foothold in the market.

In low-end disruption, the disruptor is focused initially on serving the least profitable customer, who is happy with a good enough product. This type of customer is not willing to pay premium for enhancements in product functionality. Once the disruptor has gained a foothold in this customer segment, it seeks to improve its profit margin. To get higher profit margins, the disruptor needs to enter the segment where the customer is willing to pay a little more for higher quality. To ensure this quality in its product, the disruptor needs to innovate. The incumbent will not do much to retain its share in a not-so-profitable segment, and will move up-market and focus on its more attractive customers. After a number of such encounters, the incumbent is squeezed into smaller markets than it was previously serving. And then, finally, the disruptive technology meets the demands of the most profitable segment and drives the established company out of the market.

"New market disruption" occurs when a product fits a new or emerging market segment that is not being served by existing incumbents in the industry.

The extrapolation of the theory to all aspects of life has been challenged, as has the methodology of relying on selected case studies as the principal form of evidence. Jill Lepore points out that some companies identified by the theory as victims of disruption a decade or more ago, rather than being defunct, remain dominant in their industries today (including Seagate Technology, U.S. Steel, and Bucyrus). Lepore questions whether the theory has been oversold and misapplied, as if it were able to explain everything in every sphere of life, including not just business but education and public institutions.

Disruptive Technology

In 2009, Milan Zeleny described high technology as disruptive technology and raised the question of what is being disrupted. The answer, according to Zeleny, is the *support network* of high technology. For example, introducing electric cars disrupts the support network for gasoline cars (network of gas and service stations). Such disruption is fully expected and therefore effectively resisted by support net owners. In the long run, high (disruptive) technology bypasses, upgrades, or replaces the outdated support network.

Technology, being a form of social relationship, always evolves. No technology remains fixed. Technology starts, develops, persists, mutates, stagnates, and declines, just like living organisms. The evolutionary life cycle occurs in the use and development of any technology. A new high-technology core emerges and challenges existing technology support nets (TSNs), which are thus forced to coevolve with it. New versions of the core are designed and fitted into an increasingly appropriate TSN, with smaller and smaller high-technology effects. High technology becomes regular technology, with more efficient versions fitting the same support net. Finally, even the efficiency gains diminish, emphasis shifts to product tertiary attributes (appearance, style), and technology becomes TSN-preserving appropriate technology. This technological equilibrium state becomes established and fixated, resisting being interrupted by a technological mutation; then new high technology appears and the cycle is repeated.

Regarding this evolving process of technology, Christensen said:

"The technological changes that damage established companies are usually not radically new or difficult from a technological point of view. They do, however, have two important characteristics: First, they typically present a different package of performance attributes—ones that, at least at the outset, are not valued by existing customers. Second, the performance attributes that existing customers do value improve at such a rapid rate that the new technology can later invade those established markets."

Joseph Bower explained the process of how disruptive technology, through its requisite support net, dramatically transforms a certain industry.

"When the technology that has the potential for revolutionizing an industry emerges, established companies typically see it as unattractive: it's not something their mainstream customers want, and its projected profit margins aren't sufficient to cover big-company cost structure. As a result, the new technology tends to get ignored in favor of what's currently popular with the best customers. But then another company steps in to bring the innovation to a new market. Once the disruptive technology becomes established there, smaller-scale innovation rapidly raise the technology's performance on attributes that mainstream customers' value."

The automobile was high technology with respect to the horse carriage; however, it evolved into technology and finally into appropriate technology with a stable, unchanging TSN. The main high-technology advance in the offing is some form of electric car—whether the energy source is the sun, hydrogen, water, air pressure, or traditional charging outlet. Electric cars preceded the gasoline automobile by many decades and are now returning to replace the traditional gasoline automobile.

Milan Zeleny described the above phenomenon. He also wrote that:

"Implementing high technology is often resisted. This resistance is well understood on the part of active participants in the requisite TSN. The electric car will be resisted by gas-station operators in the same way automated teller machines (ATMs) were resisted by bank tellers and automobiles by horsewhip makers. Technology does not qualitatively restructure the TSN and therefore will not be resisted and never has been resisted. Middle management resists business process reengineering because BPR represents a direct assault on the support net (coordinative hierarchy) they thrive on. Teamwork and multi-functionality is resisted by those whose TSN provides the comfort of narrow specialization and command-driven work."

High-Technology Effects

High technology is a technology core that changes the very architecture (structure and organization) of the components of the technology support net. High technology therefore transforms the qualitative nature of the TSN's tasks and their relations, as well as their requisite physical, energy, and information flows. It also affects the skills required, the roles played, and the styles of management and coordination—the organizational culture itself.

This kind of technology core is different from regular technology core, which preserves the qualitative nature of flows and the structure of the support and only allows users to perform the same

tasks in the same way, but faster, more reliably, in larger quantities, or more efficiently. It is also different from appropriate technology core, which preserves the TSN itself with the purpose of technology implementation and allows users to do the same thing in the same way at comparable levels of efficiency, instead of improving the efficiency of performance.

As for the difference between high technology and low technology, Milan Zeleny once said:

"The effects of high technology always breaks the direct comparability by changing the system itself, therefore requiring new measures and new assessments of its productivity. High technology cannot be compared and evaluated with the existing technology purely on the basis of cost, net present value or return on investment. Only within an unchanging and relatively stable TSN would such direct financial comparability be meaningful. For example, you can directly compare a manual typewriter with an electric typewriter, but not a typewriter with a word processor. Therein lies the management challenge of high technology. "

However, not all modern technologies are high technologies. They have to be used as such, function as such, and be embedded in their requisite TSNs. They have to empower the individual because only through the individual can they empower knowledge. Not all information technologies have integrative effects. Some information systems are still designed to improve the traditional hierarchy of command and thus preserve and entrench the existing TSN. The administrative model of management, for instance, further aggravates the division of task and labor, further specializes knowledge, separates management from workers, and concentrates information and knowledge in centers.

As knowledge surpasses capital, labor, and raw materials as the dominant economic resource, technologies are also starting to reflect this shift. Technologies are rapidly shifting from centralized hierarchies to distributed networks. Nowadays knowledge does not reside in a super-mind, super-book, or super-database, but in a complex relational pattern of networks brought forth to coordinate human action.

Practical Example of Disruption

In the practical world, the popularization of personal computers illustrates how knowledge contributes to the ongoing technology innovation. The original centralized concept (one computer, many persons) is a knowledge-defying idea of the prehistory of computing, and its inadequacies and failures have become clearly apparent. The era of personal computing brought powerful computers "on every desk" (one person, one computer). This short transitional period was necessary for getting used to the new computing environment, but was inadequate from the vantage point of producing knowledge. Adequate knowledge creation and management come mainly from networking and distributed computing (one person, many computers). Each person's computer must form an access point to the entire computing landscape or ecology through the Internet of other computers, databases, and mainframes, as well as production, distribution, and retailing facilities, and the like. For the first time, technology empowers individuals rather than external hierarchies. It transfers influence and power where it optimally belongs: at the loci of the useful knowledge. Even though hierarchies and bureaucracies do not innovate, free and empowered individuals do; knowledge, innovation, spontaneity, and self-reliance are becoming increasingly valued and promoted.

Examples

Category	*Disruptive innovation*	*Market disrupted by innovation*	*Notes*
Academia	Wikipedia	Traditional encyclopedias	Traditional, for-profit general encyclopedias with articles written by paid experts have been displaced by Wikipedia, an online encyclopedia which is written and edited by volunteer editors. Former market leader *Encyclopædia Britannica* ended its print production after 244 years in 2012. *Britannica*'s price of over $1000, its physical size of dozens of hard-bound volumes, its weight of over 100 pounds, its number of articles (about 120,000) and its update cycles lasting a year or longer made it unable to compete with Wikipedia, which provides free, online access to over 5 million articles which are updated every day. Wikipedia not only disrupted printed paper encyclopedias; it also disrupted digital encyclopedias. Microsoft's Encarta, a 1993 entry into professionally edited digital encyclopedias, was once a major rival to *Britannica* but was discontinued in 2009. Wikipedia's free access, online accessibility on computers and smartphones, unlimited size and instant updates are some of the challenges faced by for-profit competition in the encyclopedia market.
Communication	Telephony	Telegraphy	When Western Union declined to purchase Alexander Graham Bell's telephone patents for $100,000, their highest-profit market was long-distance telegraphy. Telephones were only useful at that time for very local calls. Short-distance telegraphy barely existed as a market segment, which explains Western Union's decision to not enter the emerging telephone market. However, telephones quickly displaced telegraphs, as telephones offered much greater communication capacity than telegraphs.
Computing hardware	Minicomputers	Mainframes	Minicomputers were originally presented as an inexpensive alternative to mainframes and mainframe manufacturers did not consider them a serious threat in their market. Eventually, the market for minicomputers (led by Seymor Cray—daisy chaining his minisupercomputers) became much larger than the market for mainframes.
	Personal computers	Minicomputers, Workstations. Word processors, Lisp machines	
	Pocket calculator	3.5 standard calculator	Equivalent computing performance and portable
	Digital calculator	Mechanical calculator	Facit AB used to dominate the European market for calculators, but did not adapt digital technology, and failed to compete with digital competitors.
	Smartphones	Personal computers, laptops, PDAs	Smartphones and tablets are more portable than traditional PCs and laptops.

Data storage	8 inch floppy disk drive	14 inch hard disk drive	The floppy disk drive market has had unusually large changes in market share over the past fifty years. According to Clayton M. Christensen's research, the cause of this instability was a repeating pattern of disruptive innovations. For example, in 1981, the old 8 inch drives (used in mini computers) were "vastly superior" to the new 5.25 inch drives (used in desktop computers). However, 8 inch drives were not affordable for the new desktop machines. The simple 5.25 inch drive, assembled from technologically inferior "off-the-shelf" components, was an "innovation" only in the sense that it was new. However, as this market grew and the drives improved, the companies that manufactured them eventually triumphed while many of the existing manufacturers of eight inch drives fell behind.
	5.25 inch floppy disk drive	8 inch floppy disk drive	
	3.5 inch floppy disk drive	5.25 inch floppy disk drive	
	CDs and USB flash drives	Bernoulli drive and Zip drive	
Display	Light-emitting diodes	Light bulbs	A LED is significantly smaller and less power-consuming than a light bulb. The first optical LEDs were weak, and only useful as indicator lights. Later models could be used for indoor lighting, and now several cities are switching to LED street lights. Incandescent light bulbs are being phased out in many countries. LED displays and AMOLED are also becoming competitive with LCDs.
	LCD LED displays	CRT	The first liquid crystal displays (LCD) were monochromatic and had low resolution. They were used in watches and other handheld devices, but during the early 2000s these (and other planar technologies) largely replaced the dominant cathode ray tube (CRT) technology for computer displays and television sets. CRT sets were very heavy, and the size and weight of the tube limited the maximum screen size to about 38 inches; in contrast, LCD and other flat-panel TVs are available in 40", 50", 60" and even bigger sizes, all of which weigh much less than a CRT set. CRT technologies did improve in the late 1990s with advances like true-flat panels and digital controls; however, these updates were not enough to prevent CRTs from being displaced by flat-panel LCD and LED TVs.
Manufacturing	Hydraulic excavators	Cable-operated excavators	Hydraulic excavators were clearly innovative at the time of introduction but they gained widespread use only decades after. However, cable-operated excavators are still used in some cases, mainly for large excavations.
	Mini steel mills	Vertically integrated steel mills	By using mostly locally available scrap and power sources these mills can be cost effective even though not large.
	Plastic	Metal, wood, glass etc.	Bakelite and other early plastics had very limited use - their main advantages were electric insulation and low cost. New forms of plastic had advantages such as transparency, elasticity and combustibility. In the early 21st century, plastics can be used for many household items previously made of metal, wood and glass.

Medical	Ultrasound	Radiography (X-ray imaging)	Ultrasound technology is disruptive relative to X-ray imaging. Ultrasound was a new-market disruption. None of the X-ray companies participated in ultrasound until they acquired major ultrasound equipment companies.
Music	Digital synthesizer	Electronic organ, electric piano and piano	Synthesizers were initially low-cost, low-weight alternatives to electronic organs, electric pianos and acoustic pianos. In the 2010s, synthesizers are significantly cheaper than electric pianos and acoustic pianos, all while offering a much greater range of sound effects and musical sounds.
	Gramophone	Pianola	
	Downloadable Digital media	CDs, DVDs	In the 1990s, the music industry phased out the vinyl record single, leaving consumers with no means to purchase individual songs. This market was initially filled by illegal peer-to-peer file sharing technologies, and then by online retailers such as the iTunes Store and Amazon.com. This low end disruption eventually undermined the sales of physical, high-cost recordings such as records, tapes and CDs.
Photography	Digital photography	Chemical photography	Early digital cameras suffered from low picture quality and resolution and long shutter lag. Quality and resolution are no longer major issues in the 2010s and shutter lag issues have been largely resolved. The convenience of small memory cards and portable hard drives that hold hundreds or thousands of pictures, as well as the lack of the need to develop these pictures, also helped make digital cameras the market leader. Digital cameras have a high power consumption (but several lightweight battery packs can provide enough power for thousands of pictures). Cameras for classic photography are stand-alone devices. In the same manner, high-resolution digital video recording has replaced film stock, except for high-budget motion pictures and fine art.
	High speed CMOS video sensors	Photographic film	When first introduced, high speed CMOS sensors were less sensitive, had lower resolution, and cameras based on them had less duration (record time). The advantage of rapid setup time, editing in the camera, and nearly-instantaneous review quickly eliminated 16 mm high speed film systems. CMOS-based cameras also require less power (single phase 110 V AC and a few amps for CMOS, vs. 240 V single- or three-phase at 20-50 A for film cameras). Continuing advances have overtaken 35 mm film and are challenging 70 mm film applications.

Publishing	Computer printers	Offset printing	Offset printing has a high overhead cost, but very low unit cost compared to computer printers, and superior quality. But as printers, especially laser printers, have improved in speed and quality, they have become increasingly useful for creating documents in limited issues.
	Desktop publishing	Traditional publishing	Early desktop-publishing systems could not match high-end professional systems in either features or quality. Nevertheless, by the 2010s, they lowered the cost of entry to the publishing business, and economies of scale eventually enabled them to match, and then surpass, the functionality of the older dedicated publishing systems.
	Word Processing	Typewriter	The typewriter has been replaced with word processing software that has a wealth of functionality to stylize copy and facilitate document production.
Transportation	Steamboats	Sailing ships	The first steamships were deployed on inland waters where sailing ships were less effective, instead of on the higher profit margin seagoing routes. Hence steamships originally only competed in traditional shipping lines' "worst" markets.
	Automobiles	Rail transport	At the beginning of the 20th century, rail (including streetcars) was the fastest and most cost-efficient means of land transportation for goods and passengers in industrialized countries. The first cars, buses and trucks were used for local transportation in suburban areas, where they often replaced streetcars and industrial tracks. As highways expanded, medium- and later long-distance transports were relocated to road traffic, and some railways closed down. As rail traffic has a lower ton-kilometer cost, but a higher investment and operating cost than road traffic, rail is still preferred for large-scale bulk cargo (such as minerals). However, traffic congestion provides a bound on the efficiency of car use, and so rail is still used for urban passenger transport.
	high speed rail	short distance flights	In almost every market where high speed rail with journey times of two hours or less was introduced in competition with an air service, the air service was either greatly reduced within a few years or ceased entirely. Even in markets with longer rail travel times, airlines have reduced the amount of flights on offer and passenger numbers have gone down. Examples include the Barcelona-Madrid high speed railway, the Cologne Frankfurt high speed railway (where no direct flights are available as of 2016) or the Paris-London connection after the opening of High Speed 1
	Private jet	Supersonic transport	The Concorde aircraft has so far been the only supersonic airliner in extensive commercial traffic. However, it catered to a small customer segment, which could later afford small private sub-sonic jets. The loss of speed was compensated by flexibility and a more direct routing (i.e. no need to go through a hub). Supersonic flight is also banned above inhabited land, due to sonic booms. Concorde service ended in 2003.

Eco-Innovation

Eco-innovation is the development of products and processes that contribute to sustainable development, applying the commercial application of knowledge to elicit direct or indirect ecological improvements. This includes a range of related ideas, from environmentally friendly technological advances to socially acceptable innovative paths towards sustainability. The field of research that seeks to explain how, why, and at what rate new "ecological" ideas and technology spread is called eco-innovation diffusion.

The Concept of Eco-Innovation

The idea of eco-innovation is fairly recent. One of the first appearances of the concept of eco-innovation in the literature is in the book by Claude Fussler and Peter James. In a subsequent article, Peter James defines eco-innovation as "new products and processes which provide customer and business value but significantly decrease environmental impacts". Klaus Rennings introduces the term eco-innovation addressing explicitly three kinds of changes towards sustainable development: technological, social and institutional innovation.

Eco-innovation is closely linked to a variety of related concepts. It is often used interchangeably with "environmental innovation", and is also often linked with environmental technology, eco-efficiency, eco-design, environmental design, sustainable design, or sustainable innovation. While the term "environmental innovation" is used in similar contexts to "eco-innovation", the other terms are mostly used when referring to product or process design, and therefore focus more on the technological aspects of eco-innovation rather than the societal or political aspects. Ecovation is the process by which responsible capitalism aligns with ecological innovation to construct products which have a generative nature and are recyclable back into the environment for usage in other industries.

Eco-Innovation as A Technological Term

The most common usage of the term "eco-innovation" is to refer to innovative products and processes that reduce environmental impacts. This is often used in conjunction with eco-efficiency and eco-design. Leaders in many industries have been developing innovative technologies in order to work towards sustainability. However, these are not always practical, or enforced by policy and legislation.

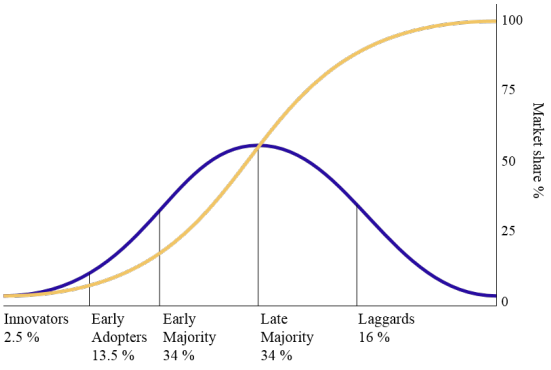
Eco-Innovation as A Social Process

Another position held (for example, by the organisation Eco Innovation) is that this definition should be complemented: eco-innovations should also bring greater social and cultural acceptance. In this view, this "social pillar" added to James's definition is necessary because it determines learning and the effectiveness of eco-innovations. This approach gives eco-innovations a social component, a status that is more than a new type of commodity, or a new sector, even though environmental technology and eco-innovation are associated with the emergence of new economic activities or even branches (e.g., waste treatment, recycling, etc.). This approach considers eco-innovation in terms of usage rather than merely in terms of product. The social pillar associated with eco-innovation introduces a governance component that makes eco-innovation a more integrated tool for sustainable development.

Diffusion of Eco-Innovations

Literature in the field of eco-innovations often focuses on policy, regulations, technology, market and firm specific factors rather than diffusion. However, understanding of diffusion of eco-innovations recently has gained more importance given the fact that some eco-innovations are already at a mature stage. Survey research shows that most customers hold positive attitudes towards various types of eco-innovations. At the same time, adoption rates of solutions such as dynamic electricity tariffs remain unsatisfactorily low. The "Not In My Back Yard" (NIMBY) concept is often used to describe what at first seems to be a confusing intention-behavior gap between high levels of public support for eco-innovations and frequent non-engagement or even local hostility towards specific project proposals. Social psychology and economic behavior models could and should be used to overcome these challenges.

Diffusion of Innovations



The diffusion of innovations according to Rogers. With successive groups of consumers adopting the new technology (shown in blue), its market share (yellow) will eventually reach the saturation level. In mathematics, the yellow curve is known as the logistic function. The curve is broken into sections of adopters.

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread. Everett Rogers, a professor of communication studies, popularized the theory in his book *Diffusion of Innovations*; the book was first published in 1962, and is now in its fifth edition (2003). Rogers argues that diffusion is the process by which an innovation is communicated over time among the participants in a social system. The origins of the diffusion of innovations theory are varied and span multiple disciplines.

Rogers proposes that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. This process relies heavily on human capital. The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass.

The categories of adopters are innovators, early adopters, early majority, late majority, and laggards. Diffusion manifests itself in different ways and is highly subject to the type of adopters and innovation-decision process. The criterion for the adopter categorization is innovativeness, defined as the degree to which an individual adopts a new idea.

History

The concept of diffusion was first studied by the French sociologist Gabriel Tarde in late 19th century and by German and Austrian anthropologists and geographers such as Friedrich Ratzel and Leo Frobenius. The study of diffusion of innovations took off in the subfield of rural sociology in the midwestern United States in the 1920s and 1930s. Agriculture technology was advancing rapidly, and researchers started to examine how independent farmers were adopting hybrid seeds, equipment, and techniques. A study of the adoption of hybrid corn seed in Iowa by Ryan and Gross (1943) solidified the prior work on diffusion into a distinct paradigm that would be cited consistently in the future. Since its start in rural sociology, Diffusion of Innovations has been applied to numerous contexts, including medical sociology, communications, marketing, development studies, health promotion, organizational studies, knowledge management, and complexity studies, with a particularly large impact on the use of medicines, medical techniques, and health communications. In organizational studies, its basic epidemiological or internal-influence form was formulated by H. Earl Pemberton, who provided examples of institutional diffusion such as postage stamps and standardized school ethics codes.

In 1962, Everett Rogers, a professor of rural sociology, published his seminal work: *Diffusion of Innovations*. Rogers synthesized research from over 508 diffusion studies across the fields that initially influenced the theory: anthropology, early sociology, rural sociology, education, industrial sociology and medical sociology. Using his synthesis, Rogers produced a theory of the adoption of innovations among individuals and organizations. *Diffusion of Innovations* and Rogers' later books are among the most often cited in diffusion research. His methodologies are closely followed in recent diffusion research, even as the field has expanded into, and been influenced by, other methodological disciplines such as social network analysis and communication.

Elements

The key elements in diffusion research are:

Element	*Definition*
Innovation	Innovations are a broad category, relative to the current knowledge of the analyzed unit. Any idea, practice, or object that is perceived as new by an individual or other unit of adoption could be considered an innovation available for study.
Adopters	Adopters are the minimal unit of analysis. In most studies, adopters are individuals, but can also be organizations (businesses, schools, hospitals, etc.), clusters within social networks, or countries.
Communication channels	Diffusion, by definition, takes place among people or organizations. Communication channels allow the transfer of information from one unit to the other. Communication patterns or capabilities must be established between parties as a minimum for diffusion to occur.
Time	The passage of time is necessary for innovations to be adopted; they are rarely adopted instantaneously. In fact, in the Ryan and Gross (1943) study on hybrid corn adoption, adoption occurred over more than ten years, and most farmers only dedicated a fraction on their fields to the new corn in the first years after adoption.
Social system	The social system is the combination of external influences (mass media, organizational or governmental mandates) and internal influences (strong and weak social relationships, distance from opinion leaders). There are many roles in a social system, and their combination represents the total influences on a potential adopter.

Characteristics of Innovations

Studies have explored many characteristics of innovations. Meta-reviews have identified several characteristics that are common among most studies. These are in line with the characteristics that Rogers initially cited in his reviews.

Potential adopters evaluate an innovation on its relative advantage (the perceived efficiencies gained by the innovation relative to current tools or procedures), its compatibility with the pre-existing system, its complexity or difficulty to learn, its trialability or testability, its potential for reinvention (using the tool for initially unintended purposes), and its observed effects. These qualities interact and are judged as a whole. For example, an innovation might be extremely complex, reducing its likelihood to be adopted and diffused, but it might be very compatible with a large advantage relative to current tools. Even with this high learning curve, potential adopters might adopt the innovation anyway.

Studies also identify other characteristics of innovations, but these are not as common as the ones that Rogers lists above. The fuzziness of the boundaries of the innovation can impact its adoption. Specifically, innovations with a small core and large periphery are easier to adopt. Innovations that are less risky are easier to adopt as the potential loss from failed integration is lower. Innovations that are disruptive to routine tasks, even when they bring a large relative advantage, might not be adopted because of added instability. Likewise, innovations that make tasks easier are likely to be adopted. Closely related to relative complexity, knowledge requirements are the ability barrier to use presented by the difficulty to use the innovation. Even when there are high knowledge requirements, support from prior adopters or other sources can increase the chances for adoption.

Characteristics of Individual Adopters

Like innovations, adopters have been determined to have traits that affect their likelihood to adopt an innovation. A bevy of individual personality traits have been explored for their impacts on adoption, but with little agreement. Ability and motivation, which vary on situation unlike personality traits, have a large impact on a potential adopter's likelihood to adopt an innovation. Unsurprisingly, potential adopters who are motivated to adopt an innovation are likely to make the adjustments needed to adopt it. Motivation can be impacted by the meaning that an innovation holds; innovations can have symbolic value that encourage (or discourage) adoption. First proposed by Ryan and Gross (1943), the overall connectedness of a potential adopter to the broad community represented by a city. Potential adopters who frequent metropolitan areas are more likely to adopt an innovation. Finally, potential adopters who have the power or agency to create change, particularly in organizations, are more likely to adopt an innovation than someone with less power over his choices.

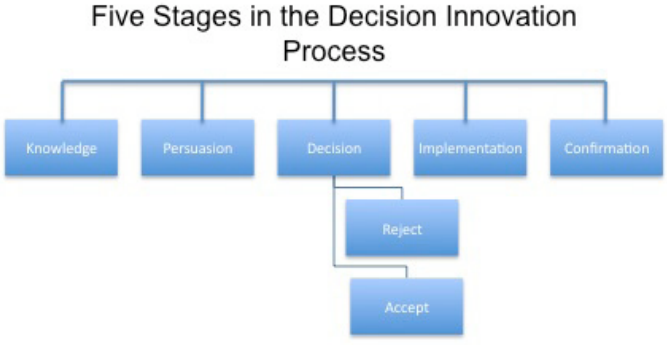
Characteristics of Organizations

Organizations face more complex adoption possibilities because organizations are both the aggregate of its individuals and its own system with a set of procedures and norms. Three organizational characteristics match well with the individual characteristics above: tension for change (motivation and ability), innovation-system fit (compatibility), and assessment of

implications (observability). Organizations can feel pressured by a tension for change. If the organization's situation is untenable, it will be motivated to adopt an innovation to change its fortunes. This tension often plays out among its individual members. Innovations that match the organization's pre-existing system require fewer coincidental changes and are easy to assess are more likely to be adopted. The wider environment of the organization, often an industry, community, or economy, exerts pressures on the organization, too. Where an innovation is diffusing through the organization's environment for any reason, the organization is more likely to adopt it. Innovations that are intentionally spread, including by political mandate or directive, are also likely to diffuse quickly.

Process

Diffusion occurs through a five–step decision-making process. It occurs through a series of communication channels over a period of time among the members of a similar social system. Ryan and Gross first identified adoption as a process in 1943. Rogers' five stages (steps): awareness, interest, evaluation, trial, and adoption are integral to this theory. An individual might reject an innovation at any time during or after the adoption process. Abrahamson examined this process critically by posing questions such as: How do technically inefficient innovations diffuse and what impedes technically efficient innovations from catching on? Abrahamson makes suggestions for how organizational scientists can more comprehensively evaluate the spread of innovations. In later editions of *Diffusion of Innovation*, Rogers changes his terminology of the five stages to: knowledge, persuasion, decision, implementation, and confirmation. However, the descriptions of the categories have remained similar throughout the editions.



Five stages of the adoption process	
Stage	*Definition*
Knowledge	The individual is first exposed to an innovation, but lacks information about the innovation. During this stage the individual has not yet been inspired to find out more information about the innovation.
Persuasion	The individual is interested in the innovation and actively seeks related information/details.
Decision	The individual takes the concept of the change and weighs the advantages/disadvantages of using the innovation and decides whether to adopt or reject the innovation. Due to the individualistic nature of this stage, Rogers notes that it is the most difficult stage on which to acquire empirical evidence.

Implementation	The individual employs the innovation to a varying degree depending on the situation. During this stage the individual also determines the usefulness of the innovation and may search for further information about it.
Confirmation	The individual finalizes his/her decision to continue using the innovation. This stage is both intrapersonal (may cause cognitive dissonance) and interpersonal, confirmation the group has made the right decision.

Decisions

Two factors determine what type a particular decision is:

- Whether the decision is made freely and implemented voluntarily
- Who makes the decision.

Based on these considerations, three types of innovation-decisions have been identified.

Type	*Definition*
Optional Innovation-Decision	made by an individual who is in some way distinguished from others.
Collective Innovation-Decision	made collectively by all participants.
Authority Innovation-Decision	made for the entire social system by individuals in positions of influence or power.

Rate of Adoption

The rate of adoption is defined as the relative speed at which participants adopt an innovation. Rate is usually measured by the length of time required for a certain percentage of the members of a social system to adopt an innovation. The rates of adoption for innovations are determined by an individual's adopter category. In general, individuals who first adopt an innovation require a shorter adoption period (adoption process) when compared to late adopters.

Within the adoption curve at some point the innovation reaches critical mass. This is when the number of individual adopters ensures that the innovation is self-sustaining.

Adoption Strategies

Rogers outlines several strategies in order to help an innovation reach this stage, including when an innovation adopted by a highly respected individual within a social network and creating an instinctive desire for a specific innovation. Another strategy includes injecting an innovation into a group of individuals who would readily use said technology, as well as providing positive reactions and benefits for early adopters.

Diffusion vs Adoption

Adoption is an individual process detailing the series of stages one undergoes from first hearing about a product to finally adopting it. Diffusion signifies a group phenomenon, which suggests how an innovation spreads.

Adopter Categories

Rogers defines an adopter category as a classification of individuals within a social system on the basis of innovativeness. In the book *Diffusion of Innovations*, Rogers suggests a total of five categories of adopters in order to standardize the usage of adopter categories in diffusion research. The adoption of an innovation follows an S curve when plotted over a length of time. The categories of adopters are: innovators, early adopters, early majority, late majority and laggards In addition to the gatekeepers and opinion leaders who exist within a given community, change agents may come from outside the community. Change agents bring innovations to new communities– first through the gatekeepers, then through the opinion leaders, and so on through the community.

Adopter category	*Definition*
Innovators	Innovators are willing to take risks, have the highest social status, have financial liquidity, are social and have closest contact to scientific sources and interaction with other innovators. Their risk tolerance allows them to adopt technologies that may ultimately fail. Financial resources help absorb these failures.
Early adopters	These individuals have the highest degree of opinion leadership among the adopter categories. Early adopters have a higher social status, financial liquidity, advanced education and are more socially forward than late adopters. They are more discreet in adoption choices than innovators. They use judicious choice of adoption to help them maintain a central communication position.
Early Majority	They adopt an innovation after a varying degree of time that is significantly longer than the innovators and early adopters. Early Majority have above average social status, contact with early adopters and seldom hold positions of opinion leadership in a system (Rogers 1962, p. 283)
Late Majority	They adopt an innovation after the average participant. These individuals approach an innovation with a high degree of skepticism and after the majority of society has adopted the innovation. Late Majority are typically skeptical about an innovation, have below average social status, little financial liquidity, in contact with others in late majority and early majority and little opinion leadership.
Laggards	They are the last to adopt an innovation. Unlike some of the previous categories, individuals in this category show little to no opinion leadership. These individuals typically have an aversion to change-agents. Laggards typically tend to be focused on "traditions", lowest social status, lowest financial liquidity, oldest among adopters, and in contact with only family and close friends.

Failed Diffusion

Failed diffusion does not mean that the technology was adopted by no one. Rather, failed diffusion often refers to diffusion that does not reach or approach 100% adoption due to its own weaknesses, competition from other innovations, or simply a lack of awareness. From a social networks perspective, a failed diffusion might be widely adopted within certain clusters but fail to make an impact on more distantly related people. Networks that are over-connected might suffer from a rigidity that prevents the changes an innovation might bring, as well. Sometimes, some innovations also fail as a result of lack of local involvement and community participation.

For example, Rogers discussed a situation in Peru involving the implementation of boiling drinking water to improve health and wellness levels in the village of Los Molinas. The residents had no knowledge of the link between sanitation and illness. The campaign worked with the villagers to try to teach them to boil water, burn their garbage, install latrines and report cases of illness to local health agencies. In Los Molinas, a stigma was linked to boiled water

as something that only the "unwell" consumed, and thus, the idea of healthy residents boiling water prior to consumption was frowned upon. The two-year educational campaign was considered to be largely unsuccessful. This failure exemplified the importance of the roles of the communication channels that are involved in such a campaign for social change. An examination of diffusion in El Salvador determined that there can be more than one social network at play as innovations are communicated. One network carries information and the other carries influence. While people might hear of an innovation's uses, in Rogers' Los Molinas sanitation case, a network of influence and status prevented adoption.

Heterophily and Communication Channels

Lazarsfeld and Merton first called attention to the principles of homophily and its opposite, heterophily. Using their definition, Rogers defines homophily as "the degree to which pairs of individuals who interact are similar in certain attributes, such as beliefs, education, social status, and the like". When given the choice, individuals usually choose to interact with someone similar to themselves. Homophilous individuals engage in more effective communication because their similarities lead to greater knowledge gain as well as attitude or behavior change. As a result, homophilous people tend to promote diffusion among each other. However, diffusion requires a certain degree of heterophily to introduce new ideas into a relationship; if two individuals are identical, no diffusion occurs because there is no new information to exchange. Therefore, an ideal situation would involve potential adopters who are homophilous in every way, except in knowledge of the innovation.

Promotion of healthy behavior provides an example of the balance required of homophily and heterophily. People tend to be close to others of similar health status. As a result, people with unhealthy behaviors like smoking and obesity are less likely to encounter information and behaviors that encourage good health. This presents a critical challenge for health communications, as ties between heterophilous people are relatively weaker, harder to create, and harder to maintain. Developing heterophilous ties to unhealthy communities can increase the effectiveness of the diffusion of good health behaviors. Once one previously homophilous tie adopts the behavior or innovation, the other members of that group are more likely to adopt it, too.

The Role of Social Systems

Opinion Leaders

Not all individuals exert an equal amount of influence over others. In this sense opinion leaders are influential in spreading either positive or negative information about an innovation. Rogers relies on the ideas of Katz & Lazarsfeld and the two-step flow theory in developing his ideas on the influence of opinion leaders.

Opinion leaders have the most influence during the evaluation stage of the innovation-decision process and on late adopters. In addition opinion leaders typically have greater exposure to the mass media, more cosmopolitan, greater contact with change agents, more social experience and exposure, higher socioeconomic status, and are more innovative than others.

Research was done in the early 1950s at the University of Chicago attempting to assess the cost-effectiveness of broadcast advertising on the diffusion of new products and services. The findings were that

opinion leadership tended to be organized into a hierarchy within a society, with each level in the hierarchy having most influence over other members in the same level, and on those in the next level below it. The lowest levels were generally larger in numbers and tended to coincide with various demographic attributes that might be targeted by mass advertising. However, it found that direct word of mouth and example were far more influential than broadcast messages, which were only effective if they reinforced the direct influences. This led to the conclusion that advertising was best targeted, if possible, on those next in line to adopt, and not on those not yet reached by the chain of influence.

Other research relating the concept to public choice theory finds that the hierarchy of influence for innovations need not, and likely does not, coincide with hierarchies of official, political, or economic status. Elites are often not innovators, and innovations may have to be introduced by outsiders and propagated up a hierarchy to the top decision makers.

Electronic Communication Social Networks

Prior to the introduction of the Internet, it was argued that social networks had a crucial role in the diffusion of innovation particularly tacit knowledge in the book *The IRG Solution – hierarchical incompetence and how to overcome it*. The book argued that the widespread adoption of computer networks of individuals would lead to much better diffusion of innovations, with greater understanding of their possible shortcomings and the identification of needed innovations that would not have otherwise occurred. The social model proposed by Ryan and Gross is expanded by Valente who uses social networks as a basis for adopter categorization instead of solely relying on the system-level analysis used by Ryan and Gross. Valente also looks at an individual's personal network, which is a different application than the organizational perspective espoused by many other scholars.

Recent research by Wear shows, that particularly in regional and rural areas, significantly more innovation takes place in communities which have stronger inter-personal networks.

Organizations

Innovations are often adopted by organizations through two types of innovation-decisions: collective innovation decisions and authority innovation decisions. The collective decision occurs when adoption is by consensus. The authority decision occurs by adoption among very few individuals with high positions of power within an organization. Unlike the optional innovation decision process, these decision processes only occur within an organization or hierarchical group. Within an organization certain individuals are termed "champions" who stand behind an innovation and break through opposition. The champion plays a very similar role as the champion used within the efficiency business model Six Sigma. The process contains five stages that are slightly similar to the innovation-decision process that individuals undertake. These stages are: agenda-setting, matching, redefining/restructuring, clarifying and routinizing.

Extensions of The Theory

Policy

Diffusion of Innovations has been applied beyond its original domains. In the case of political science and administration, policy diffusion focuses on how institutional innovations are adopted by other

institutions, at the local, state, or country level. An alternative term is 'policy transfer' where the focus is more on the agents of diffusion and the diffusion of policy knowledge, such as in the work of Diane Stone. Specifically, policy transfer can be defined as "knowledge about how policies administrative arrangements, institutions, and ideas in one political setting (past or present) is used in the development of policies, administrative arrangements, institutions, and ideas in another political setting".

The first interests with regards to policy diffusion were focused in time variation or state lottery adoption, but more recently interest has shifted towards mechanisms (emulation, learning and coercion) or in channels of diffusion where researchers find that regulatory agency creation is transmitted by country and sector channels. At the local level, examining popular city-level policies make it easy to find patterns in diffusion through measuring public awareness. At the international level, economic policies have been thought to transfer among countries according to local politicians' learning of successes and failures elsewhere and outside mandates made by global financial organizations. As a group of countries succeed with a set of policies, others follow, as exemplified by the deregulation and liberalization across the developing world after the successes of the Asian Tigers. The reintroduction of regulations in the early 2000s also shows this learning process, which would fit under the stages of knowledge and decision, can be seen as lessons learned by following China's successful growth.

Technology

Peres, Muller and Mahajan suggested that diffusion is "the process of the market penetration of new products and services that is driven by social influences, which include all interdependencies among consumers that affect various market players with or without their explicit knowledge".

Eveland evaluated diffusion from a phenomenological view, stating, "Technology is information, and exists only to the degree that people can put it into practice and use it to achieve values".

Diffusion of existing technologies has been measured using "S curves". These technologies include radio, television, VCR, cable, flush toilet, clothes washer, refrigerator, home ownership, air conditioning, dishwasher, electrified households, telephone, cordless phone, cellular phone, per capita airline miles, personal computer and the Internet. These data can act as a predictor for future innovations.

Diffusion curves for infrastructure reveal contrasts in the diffusion process of personal technologies versus infrastructure.

Consequences of Adoption

Both positive and negative outcomes are possible when an individual or organization chooses to adopt a particular innovation. Rogers states that this area needs further research because of the biased positive attitude that is associated with innovation. Rogers lists three categories for consequences: desirable vs. undesirable, direct vs. indirect, and anticipated vs. unanticipated.

In contrast Wejnert details two categories: public vs. private and benefits vs. costs.

Public Versus Private

Public consequences comprise the impact of an innovation on those other than the actor, while private consequences refer to the impact on the actor. Public consequences usually involve col-

lective actors, such as countries, states, organizations or social movements. The results are usually concerned with issues of societal well-being. Private consequences usually involve individuals or small collective entities, such as a community. The innovations are usually concerned with the improvement of quality of life or the reform of organizational or social structures.

Benefits Versus Costs

Benefits of an innovation obviously are the positive consequences, while the costs are the negative. Costs may be monetary or nonmonetary, direct or indirect. Direct costs are usually related to financial uncertainty and the economic state of the actor. Indirect costs are more difficult to identify. An example would be the need to buy a new kind of pesticide to use innovative seeds. Indirect costs may also be social, such as social conflict caused by innovation. Marketers are particularly interested in the diffusion process as it determines the success or failure of a new product. It is quite important for a marketer to understand the diffusion process so as to ensure proper management of the spread of a new product or service.

Mathematical Treatment

The diffusion of an innovation typically follows an S shaped curve which often resembles a logistic function. Mathematical programming models such as the S-D model apply the diffusion of innovations theory to real data problems.

Complex Systems Models

Complex network models can also be used to investigate the spread of innovations among individuals connected to each other by a network of peer-to-peer influences, such as in a physical community or neighborhood.

Such models represent a system of individuals as *nodes* in a network (or graph). The interactions that link these individuals are represented by the edges of the network and can be based on the probability or strength of social connections. In the dynamics of such models, each node is assigned a current state, indicating whether or not the individual has adopted the innovation, and model equations describe the evolution of these states over time.

In threshold models, the uptake of technologies is determined by the balance of two factors: the (perceived) usefulness (sometimes called utility) of the innovation to the individual as well as barriers to adoption, such as cost. The multiple parameters that influence decisions to adopt, both individual and socially motivated, can be represented by such models as a series of nodes and connections that represent real relationships. Borrowing from social network analysis, each node is an innovator, an adopter, or a potential adopter. Potential adopters have a threshold, which is a fraction of his neighbors who adopt the innovation that must be reached before he will adopt. Over time, each potential adopter views his neighbors and decides whether he should adopt based on the technologies they are using. When the effect of each individual node is analyzed along with its influence over the entire network, the expected level of adoption was seen to depend on the number of initial adopters and the network's structure and properties. Two factors emerge as important to successful spread of the innovation: the number of connections of nodes with their neighbors and the presence of a high degree of

common connections in the network (quantified by the clustering coefficient). These models are particularly good at showing the impact of opinion leaders relative to others. Computer models are often used to investigate this balance between the social aspects of diffusion and perceived intrinsic benefit to the individuals.

Criticism

Because there are more than four thousand articles across many disciplines published on Diffusion of Innovations, with a vast majority written after Rogers created a systematic theory, there have been few widely adopted changes to the theory. Although each study applies the theory in slightly different ways, this lack of cohesion has left the theory stagnant and difficult to apply with consistency to new problems.

Diffusion is difficult to quantify because humans and human networks are complex. It is extremely difficult, if not impossible, to measure what exactly causes adoption of an innovation. This is important, particularly in healthcare. Those encouraging adoption of health behaviors or new medical technologies need to be aware of the many forces acting on an individual and his or her decision to adopt a new behavior or technology. Diffusion theories can never account for all variables, and therefore might miss critical predictors of adoption. This variety of variables has also led to inconsistent results in research, reducing heuristic value.

Rogers placed the contributions and criticisms of diffusion research into four categories: pro-innovation bias, individual-blame bias, recall problem, and issues of equality. The pro-innovation bias, in particular, implies that all innovation is positive and that all innovations should be adopted. Cultural traditions and beliefs can be consumed by another culture's through diffusion, which can impose significant costs on a group of people. The one-way information flow, from sender to receiver, is another weakness of this theory. The message sender has a goal to persuade the receiver, and there is little to no reverse flow. The person implementing the change controls the direction and outcome of the campaign. In some cases, this is the best approach, but other cases require a more participatory approach. In complex environments where the adopter is receiving information from many sources and is returning feedback to the sender, a one-way model is insufficient and multiple communication flows need to be examined.

Induced Innovation

Induced innovation is a macroeconomic hypothesis first proposed in 1932 by J.R. Hicks in his work *The Theory of Wages*. He proposed that "a change in the relative prices of the factors of production is itself a spur to invention, and to invention of a particular kind—directed to economizing the use of a factor which has become relatively expensive."

Considerable literature has been produced on this hypothesis, which is often presented in terms of the effects of wage increases as an encouragement to labor-saving innovation. The hypothesis has also been applied to viewing increases in energy costs as a motivation for a more rapid improvement in energy efficiency of goods than would normally occur.

Induced Innovation in Climate Change

A significant application of Hicks theory can be found in the field of climate change. The exponential population growth occurred in the last century has drastically increased pressure on natural resources. In order to have a sustainable future it's imperative to modify global strategies on climate change and the induced innovation theory can aid to model these policies.

To calculate the human impact on the environment economists often use the I=P*A*T equation where "I", the impact variable, (for example energy consumption) is the product of "P", the population, "A" the affluence (often embodied by GDPper capita) and "T" the technology.

The technical coefficient represents the efficiency of the system in use for particular resource and expresses the average state of technology. The decrease of "T" would indicate a gain in efficiency however "I" could still be growing or remaining stable if the improved technology is not sufficient to compensate the effect of an increase in "P" and "A". Therefore, a reduction in "I" would always mean that pressure on resources has lightened but this might not always be the consequence of using resources more efficiently (reducing T).

A fundamental issue of climate change is the excess of greenhouse gasses in the atmosphere particularly CO2 as the result of an intensified economic activity. Global GDP and CO2 emissions were growing at a corresponding rate in the until the 1970s. It was then that oil prices have increased exponentially causing people to reduce its consumption.

According to Hicks theory a change in factor prices will stimulate development of technical innovation to reduce the use of the factor for which the price increased compared to other factors. Following the oil shock significant investments were made in alternative sources of energy, more efficient cars and heating systems to mitigate oil consumption. As a result, CO2 emissions started growing at a slower rate than GDP per capita. Although petrol prices then dropped in the 1980s, CO2 emissions have continued to grow more slowly than GDP. This is an indication of a complete structural change in technology induced by the need to innovate.

Induced Innovation in Agriculture

The development of agriculture is a fundamental part of the world economic growth. Being able to meet the demand of an exponentially growing population can be a challenging task, especially if we consider that one of the most important factors, land, remains fairly fixed.

According to the World Bank data, less than 38% of the global surface area of a can be deemed usable for cultivation of crops or permanent pastures.

Expanding such a number can only be achieved by remediation of soil in a certain area in order to make the land fertile. Needless to say that such an intervention requires a huge investment that can be amortized only in a long period of time. Therefore, to meet the increasing demand, countries are forced to drastically increase the productivity of the land they dispose. This is where induced innovation steps in.

In order to best explain how Hick's macroeconomic theory works, let us consider a situation in which the demand for agricultural derived products increases as a result of either population

growth or increased household income. Theory states that in such a situation, prices of inputs for which supply is inelastic will rise relative to prices of more elastic inputs. Similarly, if the supply of a particular input increases at a faster rate than the supply of other inputs, the price of such input will decline relative to the price of the other factors of production used. Ideally then, farmers would be looking to replace or use less of the more inelastic and less responsive factors of production since they are the more expensive to use. Therefore, technical innovations that replace such inputs would guarantee less costs and hence more profits. In other words, when demand for their products increases, farmers are lured by changes in relative prices to seek for technological alternatives that substitute the increasingly scarce factors of production.

Here is where the government has to intervene. Clearly, agricultural workers can't develop these innovations themselves and therefore demand that public research institutions develop new technologies that will then be transformed into modernized machinery that agricultural supply firms can sell to local farmers. Scientists will now study the best solution to this problem and respond by making the appropriate technical development such that producers can efficiently substitute the abundant inputs for the increasingly scarce factors. Ultimately this will lead to a reduction of farmer's unit costs in the best possible way.

Criticism to the Induced Innovation Theory

Although some validity is still today attributed to John Hicks induced innovation theory, different economists have critiqued his claims and developed the theory further.

There has been a massive difference of technical innovation between developed and underdeveloped countries. LDC's are expected, in the imminent future, to industrialize and develop new technologies. Economists believe that induced innovation can have a significant role in rural farming technical advancement. However Danish economist Ester Boserup takes a slightly different position. She believes that population growth would increase pressure on soil leading to improved soil management strategies aimed to raise productivity. Contrarily to Hicks that would claim this is the consequence of an increase in factor prices, Boserup believes growing population number and physical land availability are the main determinants of this change.

Similarly economist Skarstein takes a detached position from Hicks theory. He argues that the induced innovation can't be an automatic outcome of an increase in factor prices. "Shifting factor prices would not lead to any innovations in factor saving techniques, it will merely induce a change in techniques along the prevailing substitution line, he argues. This change will take place as soon as the relative factor prices shift. When the change has taken place, there is no further incentive to move inwards to a more efficient technology."

Salters sustained another contrasting view from Hicks theory. He claimed that all firms are cost savers; therefore under competitive equilibrium regime factors of production are paid its marginal value. Consequently, they will all have the same value leading to no particular stimulus to innovate to save a specific factor.

Open Innovation

Open innovation is a term promoted by Henry Chesbrough, adjunct professor and faculty director of the Center for Open Innovation at the Haas School of Business at the University of California, in a book of the same name, though the idea and discussion about some consequences (especially the interfirm cooperation in R&D) date as far back as the 1960s. The term refers to the use of both inflows and outflows of knowledge to improve internal innovation and expand the markets for external exploitation of innovation.

The concept is also related to user innovation, cumulative innovation, know-how trading, mass innovation and distributed innovation.

"Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology". Alternatively, it is "innovating with partners by sharing risk and sharing reward." The boundaries between a firm and its environment have become more permeable; innovations can easily transfer inward and outward.

The central idea behind open innovation is that, in a world of widely distributed knowledge, companies cannot afford to rely entirely on their own research, but should instead buy or license processes or inventions (i.e. patents) from other companies. In addition, internal inventions not being used in a firm's business should be taken outside the company (e.g. through licensing, joint ventures or spin-offs).

The open innovation paradigm can be interpreted to go beyond just using external sources of innovation such as customers, rival companies, and academic institutions, and can be as much a change in the use, management, and employment of intellectual property as it is in the technical and research driven generation of intellectual property. In this sense, it is understood as the systematic encouragement and exploration of a wide range of internal and external sources for innovative opportunities, the integration of this exploration with firm capabilities and resources, and the exploitation of these opportunities through multiple channels.

Advantages

Open innovation offers several benefits to companies operating on a program of global collaboration:

- Reduced cost of conducting research and development
- Potential for improvement in development productivity
- Incorporation of customers early in the development process
- Increase in accuracy for market research and customer targeting
- Potential for synergism between internal and external innovations
- Potential for viral marketing

Disadvantages

Implementing a model of open innovation is naturally associated with a number of risks and challenges, including:

- Possibility of revealing information not intended for sharing
- Potential for the hosting organization to lose their competitive advantage as a consequence of revealing intellectual property
- Increased complexity of controlling innovation and regulating how contributors affect a project
- Devising a means to properly identify and incorporate external innovation
- Realigning innovation strategies to extend beyond the firm in order to maximize the return from external innovation

Models of Open Innovation

Product Platforming

This approach involves developing and introducing a partially completed product, for the purpose of providing a framework or tool-kit for contributors to access, customize, and exploit. The goal is for the contributors to extend the platform product's functionality while increasing the overall value of the product for everyone involved.

Readily available software frameworks such as a software development kit (SDK), or an application programming interface (API) are common examples of product platforms. This approach is common in markets with strong network effects where demand for the product implementing the framework (such as a mobile phone, or an online application) increases with the number of developers that are attracted to use the platform tool-kit. The high scalability of platforming often results in an increased complexity of administration and quality assurance.

Idea Competitions

This model entails implementing a system that encourages competitiveness among contributors by rewarding successful submissions. Developer competitions such as hackathon events fall under this category of open innovation. This method provides organizations with inexpensive access to a large quantity of innovative ideas, while also providing a deeper insight into the needs of their customers and contributors.

Customer Immersion

While mostly oriented toward the end of the product development cycle, this technique involves extensive customer interaction through employees of the host organization. Companies are thus able to accurately incorporate customer input, while also allowing them to be more closely involved in the design process and product management cycle.

Collaborative Product Design and Development

Similarly to product platforming, an organization incorporates their contributors into the development of the product. This differs from platforming in the sense that, in addition to the provision of the framework on which contributors develop, the hosting organization still controls and maintains the eventual products developed in collaboration with their contributors. This method gives organizations more control by ensuring that the correct product is developed as fast as possible, while reducing the overall cost of development. Dr. Henry Chesbrough recently supported this model for open innovation in the optics and photonics industry.

Innovation Networks

Similarly to idea competitions, an organization leverages a network of contributors in the design process by offering a reward in the form of an incentive. The difference relates to the fact that the network of contributors are used to develop solutions to identified problems within the development process, as opposed to new products.

Open Innovation in Science

In Austria the Ludwig Boltzmann Gesellschaft started a project named "Tell us!" about mental health issues and used the concept of open innovation to crowdsource research questions. The institute also launched the first "Lab for Open Innovation in Science" to teach 20 selected scientists the concept of open innovation over the course of one year. On Facebook the Ludwig Boltzmann Gesellschaft informs about the lab, the participants and teachers and on news on open innovation in science.

Closed versus Open Innovation

The paradigm of closed innovation holds that successful innovation requires control. Particularly, a company should control the generation of their own ideas, as well as production, marketing, distribution, servicing, financing, and supporting. What drove this idea is that, in the early twentieth century, academic and government institutions were not involved in the commercial application of science. As a result, it was left up to other corporations to take the new product development cycle into their own hands. There just was not the time to wait for the scientific community to become more involved in the practical application of science. There also was not enough time to wait for other companies to start producing some of the components that were required in their final product. These companies became relatively self-sufficient, with little communication directed outwards to other companies or universities.

Throughout the years several factors emerged that paved the way for open innovation paradigms:

- The increasing availability and mobility of skilled workers
- The growth of the venture capital market
- External options for ideas sitting on the shelf
- The increasing capability of external suppliers

These four factors have resulted in a new market of knowledge. Knowledge is not anymore proprietary to the company. It resides in employees, suppliers, customers, competitors and universities. If companies do not use the knowledge they have inside, someone else will. Innovation can be generated either by means of closed innovation or by open innovation paradigms. There is an ongoing debate on which paradigm will dominate in the future.

Terminology of Open Innovation

Modern research of open innovation is divided into two groups, which have several names, but are similar in their essence (discovery and exploitation; outside-in and inside-out; inbound and outbound). The common factor for different names is the direction of innovation, whether from outside the company in, or from inside the company out:

Revealing (Non-Pecuniary Outbound Innovation)

This type of open innovation is when a company freely shares its resources with other partners, without an instant financial reward. The source of profit has an indirect nature and is manifested as a new type of business model.

Selling (Pecuniary Outbound Innovation)

In this type of open innovation a company commercialises its inventions and technology through selling or licensing technology to a third party.

Sourcing (Non-Pecuniary Inbound Innovation)

This type of open innovation is when companies use freely available external knowledge, as a source of internal innovation. Before starting any internal R&D project a company should monitor the external environment in search for existing solutions, thus, in this case, internal R&D become tools to absorb external ideas for internal needs.

Acquiring (Pecuniary Inbound Innovation)

In this type of open innovation a company is buying innovation from its partners through licensing, or other procedures, involving monetary reward for external knowledge

Open Source Versus Open Innovation

Open source and open innovation might conflict on patent issues. This conflict is particularly apparent when considering technologies that may save lives, or other open-source-appropriate technologies that may assist in poverty reduction or sustainable development. However, open source and open innovation are not mutually exclusive, because participating companies can donate their patents to an independent organization, put them in a common pool, or grant unlimited license use to anybody. Hence some open-source initiatives can merge these two concepts: this is the case for instance for IBM with its *Eclipse* platform, which the company presents as a case of open innovation, where competing companies are invited to cooperate inside an open-innovation network.

In 1997, Eric Raymond, writing about the open-source software movement, coined the term *the cathedral and the bazaar*. The cathedral represented the conventional method of employing a group of experts to design and develop software (though it could apply to any large-scale creative or innovative work). The bazaar represented the open-source approach. This idea has been amplified by a lot of people, notably Don Tapscott and Anthony D. Williams in their book Wikinomics. Eric Raymond himself is also quoted as saying that 'one cannot code from the ground up in bazaar style. One can test, debug, and improve in bazaar style, but it would be very hard to originate a project in bazaar mode'. In the same vein, Raymond is also quoted as saying 'The individual wizard is where successful bazaar projects generally start'.

Open-source specialist François Letellier advocates that open source (or free software) is a natural way of innovation in the software industry and that it is an exemplary and very effective form of open innovation, with open-source projects/communities act as innovation intermediaries.

Outcome-Driven Innovation

Outcome-Driven Innovation (ODI) is a strategy and innovation process developed by Anthony W. Ulwick. It is built around the theory that people buy products and services to get jobs done. As people complete these jobs, they have certain measurable outcomes that they are attempting to achieve. It links a company's value creation activities to customer-defined metrics.

Ulwick found that previous innovation practices were ineffective because they were incomplete, overlapping, or unnecessary. ODI attempts to identify important but poorly served, and unimportant but over-served, jobs and outcomes. ODI focuses on customer-desired outcome rather than demographic profile in order to segment markets and offer well-targeted products.

Clayton Christensen credits Ulwick and Richard Pedi of Gage Foods with the way of thinking about market structure used in the chapter "What Products Will Customers Want to Buy?" in his *Innovator's Solution* and called "jobs to be done" or "outcomes that customers are seeking".

Sayan Chatterjee of Case Western Reserve University Published the concept of outcomes in the 1998 California management review article. Sayan Chatterjee. 1998. "Delivering desired outcomes efficiently: the creative key to competitive strategy." California Management Review, 40(2): This was subsequently reprinted by Harvard Business School press. Competitive Strategy: Business Fundamentals, Harvard Business School Press 2002 Jun 18,

Instead of assuming what their customers want or need, typically product developers determine the voice of the customer(VOC). ODI takes VOC a step further by focusing on jobs-to-be-done rather than product improvements. The objective is to translate customers' needs into products or services they can't live without. ODI theory posits that companies typically collect the wrong kinds of input from their customers, and states that all the company should find out is what the customers' ultimate output goal is: what they want the product or service to do for them, not how it should do it. The goal of the method is to help companies discover new product and service opportunities.

According to Ulwick, ODI is the culmination of 20 years of studying innovation methodology. In 2002, it was introduced in the Harvard Business Review, and expanded upon in Ulwick's 2005

book, *What Customers Want: Using Outcome-Driven Innovation to Create Breakthrough Products and Services*.

Opportunity Algorithm

Ulwick's "opportunity algorithm" measures and ranks innovation opportunities. Standard gap analysis looks at the simple difference between importance and satisfaction metrics; Ulwick's formula gives twice as much weight to importance as to satisfaction: importance + max(importance-satisfaction,0), where importance and satisfaction are the proportion of high survey responses. The opportunity algorithm formula is as follows: Importance + (Importance-Satisfaction) = Opportunity. Customers use a 1-to-10 scale to quantify the importance of each desired outcome and the degree to which it is currently satisfied. The rankings are inserted into the formula to form the overall innovation opportunity score that highlights the outcomes with the highest "importance" scores and lowest "satisfaction" scores.

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6

External Financing in Entrepreneurship

An angel investor is an individual who provides capital for a business startup while a hedge fund is an investment fund that pools capital from a limited number of individuals and invests in a variety of assets. Venture capital and crow funding are also explained in this chapter. The aspects elucidated are of vital importance, and provide a better understanding of financing in entrepreneurship.

Angel Investor

An angel investor or angel (also known as a business angel, informal investor, angel funder, private investor, or seed investor) is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity. A small but increasing number of angel investors invest online through equity crowdfunding or organize themselves into angel groups or angel networks to share research and pool their investment capital, as well as to provide advice to their portfolio companies.

Etymology and Origin

The term "angel" originally comes from Broadway theater, where it was used to describe wealthy individuals who provided money for theatrical productions that would otherwise have had to shut down. In 1978, William Wetzel, then a professor at the University of New Hampshire and founder of its Center for Venture Research, completed a pioneering study on how entrepreneurs raised seed capital in the USA, and he began using the term "angel" to describe the investors that supported them. A similar term is patron, commonly used in arts.

Angel investors are often retired entrepreneurs or executives, who may be interested in angel investing for reasons that go beyond pure monetary return. These include wanting to keep abreast of current developments in a particular business arena, mentoring another generation of entrepreneurs, and making use of their experience and networks on a less than full-time basis. Thus, in addition to funds, angel investors can often provide valuable management advice and important contacts. Because there are no public exchanges listing their securities, private companies meet angel investors in several ways, including referrals from the investors' trusted sources and other business contacts; at investor conferences and symposia; and at meetings organized by groups of angels where companies pitch directly to investor in face-to-face meetings.

According to the Center for Venture Research, there were 258,000 active angel investors in the U.S. in 2007. According to literature reviewed by the US Small Business Administration, the number of individuals in the US who made an angel investment between 2001 and 2003 is between 300,000 and 600,000. Beginning in the late 1980s, angels started to coalesce into informal groups with the goal of sharing deal flow and due diligence work, and pooling their funds to make larger investments. Angel groups are generally local organizations made up of 10 to 150 accredited

investors interested in early-stage investing. In 1996 there were about 10 angel groups in the United States. There were over 200 as of 2006.

The past few years, particularly in North America, have seen the emergence of networks of angel groups, through which companies that apply for funding to one group are then brought before other groups to raise additional capital.

Source and Extent of Funding

Angels typically invest their own funds, unlike venture capitalists who manage the pooled money of others in a professionally managed fund. Although typically reflecting the investment judgment of an individual, the actual entity that provides the funding may be a trust, business, limited liability company, investment fund, or other vehicle. A Harvard report by William R. Kerr, Josh Lerner, and Antoinette Schoar provides evidence that angel-funded startup companies have historically been less likely to fail than companies that rely on other forms of initial financing.

Angel capital fills the gap in seed funding between "friends and family" and more robust start-up financing through formal venture capital. Although it is usually difficult to raise more than a few hundred thousand dollars from friends and family, most traditional venture capital funds are usually not able to make or evaluate small investments under US$1–2 million. Thus, angel investment is a common second round of financing for high-growth start-ups, and accounts in total for almost as much money invested annually as all venture capital funds combined, but into more than 60 times as many companies (US$20.1 billion vs. $23.26 billion in the US in 2010, into 61,900 companies vs. 1,012 companies).

There is no "set amount" for angel investors, and the range can go anywhere from a few thousand, to a few million dollars. In a large shift from 2009, in 2010 healthcare/medical accounted for the largest share of angel investments, with 30% of total angel investments (vs. 17% in 2009), followed by software (16% vs. 19% in 2007), biotech (15% vs. 8% in 2009), industrial/energy (8% vs. 17% in 2009), retail (5% vs. 8% in 2009) and IT services (5%). While more readily available than venture financing, angel investment is still extremely difficult to raise. However some new models are developing that are trying to make this easier.

Investment Profile

Angel investments bear extremely high risks and are usually subject to dilution from future investment rounds. As such, they require a very high return on investment. Because a large percentage of angel investments are lost completely when early stage companies fail, professional angel investors seek investments that have the potential to return at least ten or more times their original investment within 5 years, through a defined exit strategy, such as plans for an initial public offering or an acquisition. Current 'best practices' suggest that angels might do better setting their sights even higher, looking for companies that will have at least the potential to provide a 20x-30x return over a five- to seven-year holding period. After taking into account the need to cover failed investments and the multi-year holding time for even the successful ones, however, the actual effective internal rate of return for a typical successful portfolio of angel investments is, in reality, typically as 'low' as 20–30%. While the investor's need for high rates of return on any given investment can thus make angel financing an expensive source of funds, cheaper sources of capital, such as bank financing, are usually not available for most early-stage ventures.

Geographical Differences

US

Geographically, Silicon Valley dominates United States angel investing, receiving 39% of the $7.5B invested in US-based companies throughout Q2 2011, 3–4 times as much as the total amount invested within New England. Total investments in 2011 were $22.5 billion, an increase of 12.1 percent over 2010 when investments totalled $20.1 billion. In the United States, angels are generally accredited investors in order to comply with current SEC regulations, although the JOBS Act of 2012 will loosen those requirements starting in January 2013. Reaching nearly $23 billion in 2012 in the US, angel investors are not only responsible for funding over 67,000 startup ventures annually, but their capital also contributed to job growth by helping to finance 274,800 new jobs in 2012. In 2013, 41% of tech sector executives name angel investors as a means of funding.

UK

A study by NESTA in 2009 estimated that there were between 4,000 and 6,000 angel investors in the UK with an average investment size of £42,000 per investment. Furthermore, each angel investor on average acquired 8 percent of the venture in the deal with 10 percent of investments accounting for more than 20 percent of the venture.

In terms of returns, 35 percent of investments produced returns of between one and five times of the initial investment, whilst 9 percent produced returns of multiples of ten times or more. The mean return, however, was 2.2 times investment in 3.6 years and an approximate internal rate of return of 22 percent gross.

The UK Business Angel market grew in 2009/2010 and, despite recessionary concerns, continues to show signs of growth. In 2013, this dynamic kept going on in the UK as angel investors were named by two-thirds of entrepreneurs as a means of funding. Peter Cowley was named as Angel Investor of the Year on 1 July 2014. Peter was nominated by Angel CoFund for the award which recognised his strong track record of supporting start up entrepreneurs. By 2015, angel investments had increased throughout the UK, with the average number of investments made by angels at 5, compared to 2.5 in 2009. The same report also found an increase in angel investors making impact investments, with 25% of angels saying they had made an impact investment in 2014.

Russia

In 2012, the 'International Business Angels Assembly' took place in the Russian Federation. This was an exclusive event devoted to private investing into innovative projects in Eastern Europe.

Venture Capital

Venture capital (VC) is a type of private equity, a form of financing that is provided by firms or funds to small, early-stage, emerging firms that are deemed to have high growth potential, or which have demonstrated high growth (in terms of number of employees, annual revenue, or both). Venture capital firms or funds invest in these early-stage companies in exchange for equity–an ownership

stake–in the companies they invest in. Venture capitalists take on the risk of financing risky start-ups in the hopes that some of the firms they support will become successful. The start-ups are usually based on an innovative technology or business model and they are usually from the high technology industries, such as Information technology (IT), social media or biotechnology. The typical venture capital investment occurs after an initial "seed funding" round. The first round of institutional venture capital to fund growth is called the Series A round. Venture capitalists provide this financing in the interest of generating a return through an eventual "exit" event, such as the company selling shares to the public for the first time in an Initial public offering (IPO) or doing a merger and acquisition (also known as a "trade sale") of the company.

In addition to angel investing, equity crowdfunding and other seed funding options, venture capital is attractive for new companies with limited operating history that are too small to raise capital in the public markets and have not reached the point where they are able to secure a bank loan or complete a debt offering. In exchange for the high risk that venture capitalists assume by investing in smaller and early-stage companies, venture capitalists usually get significant control over company decisions, in addition to a significant portion of the companies' ownership (and consequently value). Venture capitalists contribute more than financing to these early-stage firms; they also often provide strategic advice to the firm's executives on its business model and marketing strategies.

Venture capital is also a way in which the private and public sectors can construct an institution that systematically creates business networks for the new firms and industries, so that they can progress and develop. This institution helps identify promising new firms and provide them with finance, technical expertise, mentoring, marketing "know-how", and business models. Once integrated into the business network, these firms are more likely to succeed, as they become "nodes" in the search networks for designing and building products in their domain. However, venture capitalists' decisions are often biased, exhibiting for instance overconfidence and illusion of control, much like entrepreneurial decisions in general.

History

A venture may be defined as a project prospective converted into a process with an adequate assumed risk and investment. With few exceptions, private equity in the first half of the 20th century was the domain of wealthy individuals and families. The Wallenbergs, Vanderbilts, Whitneys, Rockefellers, and Warburgs were notable investors in private companies in the first half of the century. In 1938, Laurance S. Rockefeller helped finance the creation of both Eastern Air Lines and Douglas Aircraft, and the Rockefeller family had vast holdings in a variety of companies. Eric M. Warburg founded E.M. Warburg & Co. in 1938, which would ultimately become Warburg Pincus, with investments in both leveraged buyouts and venture capital. The Wallenberg family started Investor AB in 1916 in Sweden and were early investors in several Swedish companies such as ABB, Atlas Copco, Ericsson, etc. in the first half of the 20th century.

Origins of Modern Private Equity

Before World War II (1939–1945), money orders (originally known as "development capital") remained primarily the domain of wealthy individuals and families. Only after 1945 did "true" private equity investments begin to emerge, notably with the founding of the first two venture capital firms in 1946: American Research and Development Corporation (ARDC) and J.H. Whitney & Company.

Georges Doriot, the "father of venture capitalism" (and former assistant dean of Harvard Business School), founded INSEAD in 1957. Along with Ralph Flanders and Karl Compton (former president of MIT), Doriot founded ARDC in 1946 to encourage private-sector investment in businesses run by soldiers returning from World War II. ARDC became the first institutional private-equity investment firm to raise capital from sources other than wealthy families, although it had several notable investment successes as well. ARDC is credited with the first trick when its 1957 investment of $70,000 in Digital Equipment Corporation (DEC) would be valued at over $355 million after the company's initial public offering in 1968 (representing a return of over 1200 times on its investment and an annualized rate of return of 101%).

Former employees of ARDC went on to establish several prominent venture-capital firms including Greylock Partners (founded in 1965 by Charlie Waite and Bill Elfers) and Morgan, Holland Ventures, the predecessor of Flagship Ventures (founded in 1982 by James Morgan). ARDC continued investing until 1971, when Doriot retired. In 1972 Doriot merged ARDC with Textron after having invested in over 150 companies.

John Hay Whitney (1904–1982) and his partner Benno Schmidt (1913–1999) founded J.H. Whitney & Company in 1946. Whitney had been investing since the 1930s, founding Pioneer Pictures in 1933 and acquiring a 15% interest in Technicolor Corporation with his cousin Cornelius Vanderbilt Whitney. Florida Foods Corporation proved Whitney's most famous investment. The company developed an innovative method for delivering nutrition to American soldiers, later known as Minute Maid orange juice and was sold to The Coca-Cola Company in 1960. J.H. Whitney & Company continued to make investments in leveraged buyout transactions and raised $750 million for its sixth institutional private equity fund in 2005.

Early Venture Capital and the Growth of Silicon Valley

A highway exit for Sand Hill Road in Menlo Park, California, where many Bay Area venture capital firms are based

One of the first steps toward a professionally managed venture capital industry was the passage of the Small Business Investment Act of 1958. The 1958 Act officially allowed the U.S. Small Business Administration (SBA) to license private "Small Business Investment Companies" (SBICs) to help the financing and management of the small entrepreneurial businesses in the United States.

During the 1960s and 1970s, venture capital firms focused their investment activity primarily on starting and expanding companies. More often than not, these companies were exploiting breakthroughs in electronic, medical, or data-processing technology. As a result, venture capital came to be almost synonymous with technology finance. An early West Coast venture capital company was Draper and Johnson Investment Company, formed in 1962 by William Henry Draper III and Franklin P. Johnson, Jr. In 1965, Sutter Hill Ventures acquired the portfolio of Draper and Johnson as a founding action. Bill Draper and Paul Wythes were the founders, and Pitch Johnson formed Asset Management Company at that time.

It is commonly noted that the first venture-backed startup is Fairchild Semiconductor (which produced the first commercially practical integrated circuit), funded in 1959 by what would later become Venrock Associates. Venrock was founded in 1969 by Laurance S. Rockefeller, the fourth of John D. Rockefeller's six children as a way to allow other Rockefeller children to develop exposure to venture capital investments.

It was also in the 1960s that the common form of private equity fund, still in use today, emerged. Private equity firms organized limited partnerships to hold investments in which the investment professionals served as general partner and the investors, who were passive limited partners, put up the capital. The compensation structure, still in use today, also emerged with limited partners paying an annual management fee of 1.0–2.5% and a carried interest typically representing up to 20% of the profits of the partnership.

The growth of the venture capital industry was fueled by the emergence of the independent investment firms on Sand Hill Road, beginning with Kleiner, Perkins, Caufield & Byers and Sequoia Capital in 1972. Located in Menlo Park, CA, Kleiner Perkins, Sequoia and later venture capital firms would have access to the many semiconductor companies based in the Santa Clara Valley as well as early computer firms using their devices and programming and service companies.

Throughout the 1970s, a group of private equity firms, focused primarily on venture capital investments, would be founded that would become the model for later leveraged buyout and venture capital investment firms. In 1973, with the number of new venture capital firms increasing, leading venture capitalists formed the National Venture Capital Association (NVCA). The NVCA was to serve as the industry trade group for the venture capital industry. Venture capital firms suffered a temporary downturn in 1974, when the stock market crashed and investors were naturally wary of this new kind of investment fund.

It was not until 1978 that venture capital experienced its first major fundraising year, as the industry raised approximately $750 million. With the passage of the Employee Retirement Income Security Act (ERISA) in 1974, corporate pension funds were prohibited from holding certain risky investments including many investments in privately held companies. In 1978, the US Labor Department relaxed certain of the ERISA restrictions, under the "prudent man rule," thus allowing corporate pension funds to invest in the asset class and providing a major source of capital available to venture capitalists.

1980s

The public successes of the venture capital industry in the 1970s and early 1980s (e.g., Digital Equipment Corporation, Apple Inc., Genentech) gave rise to a major proliferation of venture

capital investment firms. From just a few dozen firms at the start of the decade, there were over 650 firms by the end of the 1980s, each searching for the next major "home run." The number of firms multiplied, and the capital managed by these firms increased from $3 billion to $31 billion over the course of the decade.

The growth of the industry was hampered by sharply declining returns, and certain venture firms began posting losses for the first time. In addition to the increased competition among firms, several other factors affected returns. The market for initial public offerings cooled in the mid-1980s before collapsing after the stock market crash in 1987, and foreign corporations, particularly from Japan and Korea, flooded early-stage companies with capital.

In response to the changing conditions, corporations that had sponsored in-house venture investment arms, including General Electric and Paine Webber either sold off or closed these venture capital units. Additionally, venture capital units within Chemical Bank and Continental Illinois National Bank, among others, began shifting their focus from funding early stage companies toward investments in more mature companies. Even industry founders J.H. Whitney & Company and Warburg Pincus began to transition toward leveraged buyouts and growth capital investments.

Venture Capital Boom and The Internet Bubble

By the end of the 1980s, venture capital returns were relatively low, particularly in comparison with their emerging leveraged buyout cousins, due in part to the competition for hot startups, excess supply of IPOs and the inexperience of many venture capital fund managers. Growth in the venture capital industry remained limited throughout the 1980s and the first half of the 1990s, increasing from $3 billion in 1983 to just over $4 billion more than a decade later in 1994.

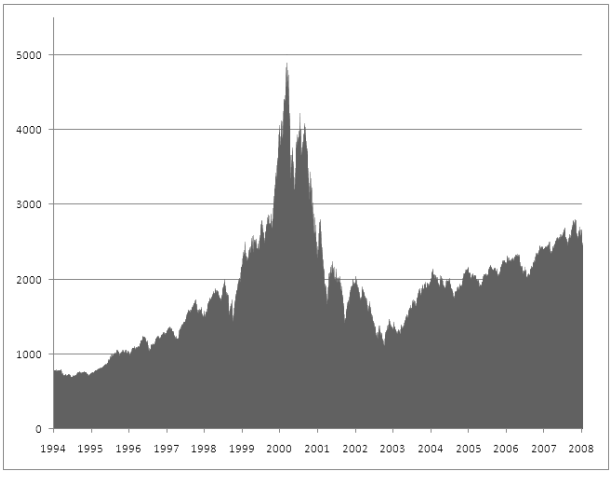
After a shakeout of venture capital managers, the more successful firms retrenched, focusing increasingly on improving operations at their portfolio companies rather than continuously making new investments. Results would begin to turn very attractive, successful and would ultimately generate the venture capital boom of the 1990s. Yale School of Management Professor Andrew Metrick refers to these first 15 years of the modern venture capital industry beginning in 1980 as the "pre-boom period" in anticipation of the boom that would begin in 1995 and last through the bursting of the Internet bubble in 2000.

The late 1990s were a boom time for venture capital, as firms on Sand Hill Road in Menlo Park and Silicon Valley benefited from a huge surge of interest in the nascent Internet and other computer technologies. Initial public offerings of stock for technology and other growth companies were in abundance, and venture firms were reaping large returns.

Private Equity Crash

The Nasdaq crash and technology slump that started in March 2000 shook virtually the entire venture capital industry as valuations for startup technology companies collapsed. Over the next two years, many venture firms had been forced to write-off large proportions of their investments, and many funds were significantly "under water" (the values of the fund's investments were below the amount of capital invested). Venture capital investors sought to reduce size of commitments they had made to

venture capital funds, and, in numerous instances, investors sought to unload existing commitments for cents on the dollar in the secondary market. By mid-2003, the venture capital industry had shriveled to about half its 2001 capacity. Nevertheless, PricewaterhouseCoopers' MoneyTree Survey shows that total venture capital investments held steady at 2003 levels through the second quarter of 2005.



The technology-heavy NASDAQ Composite index peaked at 5,048 in March 2000 reflecting the high point of the dot-com bubble.

Although the post-boom years represent just a small fraction of the peak levels of venture investment reached in 2000, they still represent an increase over the levels of investment from 1980 through 1995. As a percentage of GDP, venture investment was 0.058% in 1994, peaked at 1.087% (nearly 19 times the 1994 level) in 2000 and ranged from 0.164% to 0.182% in 2003 and 2004. The revival of an Internet-driven environment in 2004 through 2007 helped to revive the venture capital environment. However, as a percentage of the overall private equity market, venture capital has still not reached its mid-1990s level, let alone its peak in 2000.

Venture capital funds, which were responsible for much of the fundraising volume in 2000 (the height of the dot-com bubble), raised only $25.1 billion in 2006, a 2% decline from 2005 and a significant decline from its peak.

Funding

Obtaining venture capital is substantially different from raising debt or a loan. Lenders have a legal right to interest on a loan and repayment of the capital irrespective of the success or failure of a business. Venture capital is invested in exchange for an equity stake in the business. The return of the venture capitalist as a shareholder depends on the growth and profitability of the business. This return is generally earned when the venture capitalist "exits" by selling its shareholdings when the business is sold to another owner.

Venture capitalists are typically very selective in deciding what to invest in; as a result, firms are looking for the extremely rare yet sought-after qualities such as innovative technology, potential for rapid growth, a well-developed business model, and an impressive management team. Of these qualities, funds are most interested in ventures with exceptionally high growth potential, as only such opportunities are likely capable of providing financial returns and a successful exit within the required time frame (typically 3–7 years) that venture capitalists expect.

Because investments are illiquid and require the extended time frame to harvest, venture capitalists are expected to carry out detailed due diligence prior to investment. Venture capitalists also are expected to nurture the companies in which they invest, in order to increase the likelihood of reaching an IPO stage when valuations are favourable. Venture capitalists typically assist at four stages in the company's development:

- Idea generation;
- Start-up;
- Ramp up; and
- Exit

Because there are no public exchanges listing their securities, private companies meet venture capital firms and other private equity investors in several ways, including warm referrals from the investors' trusted sources and other business contacts; investor conferences and symposia; and summits where companies pitch directly to investor groups in face-to-face meetings, including a variant known as "Speed Venturing", which is akin to speed-dating for capital, where the investor decides within 10 minutes whether he wants a follow-up meeting. In addition, some new private online networks are emerging to provide additional opportunities for meeting investors.

This need for high returns makes venture funding an expensive capital source for companies, and most suitable for businesses having large up-front capital requirements, which cannot be financed by cheaper alternatives such as debt. That is most commonly the case for intangible assets such as software, and other intellectual property, whose value is unproven. In turn, this explains why venture capital is most prevalent in the fast-growing technology and life sciences or biotechnology fields.

If a company does have the qualities venture capitalists seek including a solid business plan, a good management team, investment and passion from the founders, a good potential to exit the investment before the end of their funding cycle, and target minimum returns in excess of 40% per year, it will find it easier to raise venture capital.

Financing Stages

There are typically six stages of venture round financing offered in Venture Capital, that roughly correspond to these stages of a company's development.

- Seed funding: The earliest round of financing needed to prove a new idea, often provided by angel investors. Equity crowdfunding is also emerging as an option for seed funding.
- Start-up: Early stage firms that need funding for expenses associated with marketing and product development
- Growth (Series A round): Early sales and manufacturing funds. This is typically where VCs come in. Series A can be thought of as the first institutional round. Subsequent investment rounds are called Series B, Series C and so on...
- Second-Round: Working capital for early stage companies that are selling product, but not

yet turning a profit. This can also be called Series B round and so on.

- Expansion: Also called Mezzanine financing, this is expansion money for a newly profitable company
- Exit of venture capitalist: VCs can exit through secondary sale or an IPO or an acquisition. Early stage VCs may exit in later rounds when new investors (VCs or Private Equity investors) buy the shares of existing investors. Sometimes a company very close to an IPO may allow some VCs to exit and instead new investors may come in hoping to profit from the IPO.
- Bridge Financing is when a startup seeks funding in between full VC rounds. The objective is to raise smaller amount of money instead of a full round and usually the existing investors participate.

Between the first round and the fourth round, venture-backed companies may also seek to take venture debt.

Firms and Funds

Venture Capitalists

A venture capitalist is a person who makes venture investments, and these venture capitalists are expected to bring managerial and technical expertise as well as capital to their investments. A venture capital fund refers to a pooled investment vehicle (in the United States, often an LP or LLC) that primarily invests the financial capital of third-party investors in enterprises that are too risky for the standard capital markets or bank loans. These funds are typically managed by a venture capital firm, which often employs individuals with technology backgrounds (scientists, researchers), business training and/or deep industry experience.

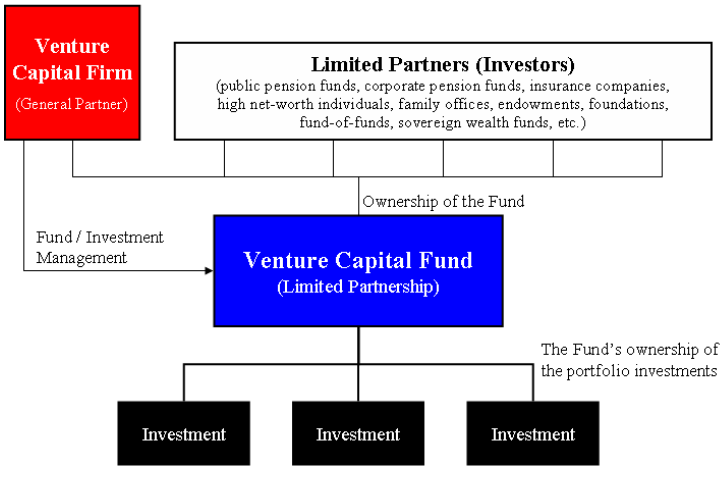


Diagram of the structure of a generic venture capital fund

A core skill within VC is the ability to identify novel or disruptive technologies that have the potential to generate high commercial returns at an early stage. By definition, VCs also take a role in managing entrepreneurial companies at an early stage, thus adding skills as well as capital, thereby differentiating VC from buy-out private equity, which typically invest in companies with

proven revenue, and thereby potentially realizing much higher rates of returns. Inherent in realizing abnormally high rates of returns is the risk of losing all of one's investment in a given startup company. As a consequence, most venture capital investments are done in a pool format, where several investors combine their investments into one large fund that invests in many different startup companies. By investing in the pool format, the investors are spreading out their risk to many different investments instead of taking the chance of putting all of their money in one start up firm.

Structure

Venture capital firms are typically structured as partnerships, the general partners of which serve as the managers of the firm and will serve as investment advisors to the venture capital funds raised. Venture capital firms in the United States may also be structured as limited liability companies, in which case the firm's managers are known as managing members. Investors in venture capital funds are known as limited partners. This constituency comprises both high-net-worth individuals and institutions with large amounts of available capital, such as state and private pension funds, university financial endowments, foundations, insurance companies, and pooled investment vehicles, called funds of funds.

Types

Venture Capitalist firms differ in their approaches. There are multiple factors, and each firm is different.

Some of the factors that influence VC decisions include:

- Business situation: Some VCs tend to invest in new, disruptive ideas, or fledgling companies. Others prefer investing in established companies that need support to go public or grow.
- Some invest solely in certain industries.
- Some prefer operating locally while others will operate nationwide or even globally.
- VC expectations can often vary. Some may want a quicker public sale of the company or expect fast growth. The amount of help a VC provides can vary from one firm to the next.

Roles

Within the venture capital industry, the general partners and other investment professionals of the venture capital firm are often referred to as "venture capitalists" or "VCs". Typical career backgrounds vary, but, broadly speaking, venture capitalists come from either an operational or a finance background. Venture capitalists with an operational background (operating partner) tend to be former founders or executives of companies similar to those which the partnership finances or will have served as management consultants. Venture capitalists with finance backgrounds tend to have investment banking or other corporate finance experience.

Although the titles are not entirely uniform from firm to firm, other positions at venture capital firms include:

Position	Role
General Partners or GPs	They run the Venture Capital firm and make the investment decisions on behalf of the fund. GPs typically put in personal capital up to 1-2% of the VC Fund size to show their commitment to the LPs.
Venture partners	Venture partners are expected to source potential investment opportunities ("bring in deals") and typically are compensated only for those deals with which they are involved.
Principal	This is a mid-level investment professional position, and often considered a "partner-track" position. Principals will have been promoted from a senior associate position or who have commensurate experience in another field, such as investment banking, management consulting, or a market of particular interest to the strategy of the venture capital firm.
Associate	This is typically the most junior apprentice position within a venture capital firm. After a few successful years, an associate may move up to the "senior associate" position and potentially principal and beyond. Associates will often have worked for 1–2 years in another field, such as investment banking or management consulting.
Entrepreneur-in-residence	Entrepreneurs-in-residence (EIRs) are experts in a particular industry sector (e.g., biotechnology or social media) and perform due diligence on potential deals. EIRs are hired by venture capital firms temporarily (six to 18 months) and are expected to develop and pitch startup ideas to their host firm, although neither party is bound to work with each other. Some EIRs move on to executive positions within a portfolio company.

Structure of The Funds

Most venture capital funds have a fixed life of 10 years, with the possibility of a few years of extensions to allow for private companies still seeking liquidity. The investing cycle for most funds is generally three to five years, after which the focus is managing and making follow-on investments in an existing portfolio. This model was pioneered by successful funds in Silicon Valley through the 1980s to invest in technological trends broadly but only during their period of ascendance, and to cut exposure to management and marketing risks of any individual firm or its product.

In such a fund, the investors have a fixed commitment to the fund that is initially unfunded and subsequently "called down" by the venture capital fund over time as the fund makes its investments. There are substantial penalties for a limited partner (or investor) that fails to participate in a capital call.

It can take anywhere from a month or so to several years for venture capitalists to raise money from limited partners for their fund. At the time when all of the money has been raised, the fund is said to be closed, and the 10-year lifetime begins. Some funds have partial closes when one half (or some other amount) of the fund has been raised. The vintage year generally refers to the year in which the fund was closed and may serve as a means to stratify VC funds for comparison. This shows the difference between a venture capital fund management company and the venture capital funds managed by them.

From investors' point of view, funds can be: (1) traditional—where all the investors invest with equal terms; or (2) asymmetric—where different investors have different terms. Typically the asymmetry is seen in cases where there's an investor that has other interests such as tax income in case of public investors.

Compensation

Venture capitalists are compensated through a combination of management fees and carried interest (often referred to as a "two and 20" arrangement):

Payment	Implementation
Management fees	an annual payment made by the investors in the fund to the fund's manager to pay for the private equity firm's investment operations. In a typical venture capital fund, the general partners receive an annual management fee equal to up to 2% of the committed capital.
Carried interest	a share of the profits of the fund (typically 20%), paid to the private equity fund's management company as a performance incentive. The remaining 80% of the profits are paid to the fund's investors Strong limited partner interest in top-tier venture firms has led to a general trend toward terms more favorable to the venture partnership, and certain groups are able to command carried interest of 25–30% on their funds.

Because a fund may run out of capital prior to the end of its life, larger venture capital firms usually have several overlapping funds at the same time; doing so lets the larger firm keep specialists in all stages of the development of firms almost constantly engaged. Smaller firms tend to thrive or fail with their initial industry contacts; by the time the fund cashes out, an entirely new generation of technologies and people is ascending, whom the general partners may not know well, and so it is prudent to reassess and shift industries or personnel rather than attempt to simply invest more in the industry or people the partners already know.

Alternatives

Because of the strict requirements venture capitalists have for potential investments, many entrepreneurs seek seed funding from angel investors, who may be more willing to invest in highly speculative opportunities, or may have a prior relationship with the entrepreneur.

Furthermore, many venture capital firms will only seriously evaluate an investment in a start-up company otherwise unknown to them if the company can prove at least some of its claims about the technology and/or market potential for its product or services. To achieve this, or even just to avoid the dilutive effects of receiving funding before such claims are proven, many start-ups seek to self-finance sweat equity until they reach a point where they can credibly approach outside capital providers such as venture capitalists or angel investors. This practice is called "bootstrapping".

Equity crowdfunding is emerging as an alternative to traditional venture capital. Traditional crowdfunding is an approach to raising the capital required for a new project or enterprise by appealing to large numbers of ordinary people for small donations. While such an approach has long precedents in the sphere of charity, it is receiving renewed attention from entrepreneurs, now that social media and online communities make it possible to reach out to a group of potentially interested supporters at very low cost. Some equity crowdfunding models are also being applied specifically for startup funding, such as those listed at Comparison of crowd funding services. One of the reasons to look for alternatives to venture capital is the problem of the traditional VC model. The traditional VCs are shifting their focus to later-stage investments, and return on investment of many VC funds have been low or negative.

In Europe and India, Media for equity is a partial alternative to venture capital funding. Media for equity investors are able to supply start-ups with often significant advertising campaigns in return for

equity. In Europe, an investment advisory firm offers young ventures the option to exchange equity for services investment; their aim is to guide ventures through the development stage to arrive at a significant funding, mergers and acquisition, or other exit strategy.

In industries where assets can be securitized effectively because they reliably generate future revenue streams or have a good potential for resale in case of foreclosure, businesses may more cheaply be able to raise debt to finance their growth. Good examples would include asset-intensive extractive industries such as mining, or manufacturing industries. Offshore funding is provided via specialist venture capital trusts, which seek to utilise securitization in structuring hybrid multi-market transactions via an SPV (special purpose vehicle): a corporate entity that is designed solely for the purpose of the financing.

In addition to traditional venture capital and angel networks, groups have emerged, which allow groups of small investors or entrepreneurs themselves to compete in a privatized business plan competition where the group itself serves as the investor through a democratic process.

Law firms are also increasingly acting as an intermediary between clients seeking venture capital and the firms providing it.

Other forms include venture resources that seek to provide non-monetary support to launch a new venture.

Societal Impact

Venture capital is also associated with job creation (accounting for 2% of US GDP), the knowledge economy, and used as a proxy measure of innovation within an economic sector or geography. Every year, there are nearly 2 million businesses created in the USA, and 600–800 get venture capital funding. According to the National Venture Capital Association, 11% of private sector jobs come from venture-backed companies and venture-backed revenue accounts for 21% of US GDP.

Role of Women

Women make up a small (usually less than 10%) fraction of the private equity workforce. A widely used source for tracking the number of women in venture capital, is the Midas List which has been published by Forbes since 2001. One of the first women to make the list, Annette Campbell-White, has been cited as an example of discrimination in venture capital. Specifically she claimed that a number of firms in the 1980s ignored her senior management experience in Hambrecht & Quist. In addition to findings that women make up the majority of early technology adopters, Harvard Business School Professor Paul Gompers has stated that female venture capitalists consistently perform as well as males at large firms that have more than one woman. Questions about how to increase the number of VC opportunities for women have been brought to the forefront by several events. One of them is a lawsuit by Ellen Pao against her former employer Kleiner Perkins Caufield & Byers. Another is *Elephant in the Valley*, a survey aiming to expose discrimination started by several women in business including Tracy Vassallo, a former partner of the same firm. Expressing criticism of existing funds, a number of women since 2007, have begun to start their own.

Venture capitalist and CEO Ellen Pao filed a lawsuit against her former employer Kleiner Perkins Caufield & Byers alleging gender discrimination.

Babson College's Diana Report found that the number of women partners in VC firms decreased from 10% in 1999 to 6% in 2014. The report also found that 97% of VC-funded businesses had male chief executives, and that businesses with all-male teams were more than four times as likely to receive VC funding compared to teams with at least one woman. More than 75% of VC firms in the US did not have any female venture capitalists at the time they were surveyed. It was found that a greater fraction of VC firms had never had a woman represent them on the board of one of their portfolio companies. For comparison, a UC Davis study focusing on large public companies in California found 49.5% with at least one female board seat. When the latter results were published, some *San Jose Mercury News* readers dismissed the possibility that sexism was a cause. In a follow-up *Newsweek* article, Nina Burleigh asked "Where were all these offended people when women like Heidi Roizen published accounts of having a venture capitalist stick her hand in his pants under a table while a deal was being discussed?"

Geographical Differences

Venture capital, as an industry, originated in the United States, and American firms have traditionally been the largest participants in venture deals with the bulk of venture capital being deployed in American companies. However, increasingly, non-US venture investment is growing, and the number and size of non-US venture capitalists have been expanding.

Venture capital has been used as a tool for economic development in a variety of developing regions. In many of these regions, with less developed financial sectors, venture capital plays a role in facilitating access to finance for small and medium enterprises (SMEs), which in most cases would not qualify for receiving bank loans.

In the year of 2008, while VC funding were still majorly dominated by U.S. money ($28.8 billion invested in over 2550 deals in 2008), compared to international fund investments ($13.4 billion invested elsewhere), there has been an average 5% growth in the venture capital deals outside the USA, mainly in China and Europe. Geographical differences can be significant. For instance, in the UK, 4% of British investment goes to venture capital, compared to about 33% in the U.S.

United States

Venture capitalists invested some $29.1 billion in 3,752 deals in the U.S. through the fourth quarter of 2011, according to a report by the National Venture Capital Association. The same numbers for all of 2010 were $23.4 billion in 3,496 deals.

According to a report by Dow Jones VentureSource, venture capital funding fell to $6.4 billion in the USA in the first quarter of 2013, an 11.8% drop from the first quarter of 2012, and a 20.8% decline from 2011. Venture firms have added $4.2 billion into their funds this year, down from $6.3 billion in the first quarter of 2013, but up from $2.6 billion in the fourth quarter of 2012.

Mexico

The Venture Capital industry in Mexico is a fast-growing sector in the country that, with the support of institutions and private funds, is estimated to reach US$100 billion invested by 2018.

Israel

In Israel, high-tech entrepreneurship and venture capital have flourished well beyond the country's relative size. As it has very little natural resources and, historically has been forced to build its economy on knowledge-based industries, its VC industry has rapidly developed, and nowadays has about 70 active venture capital funds, of which 14 international VCs with Israeli offices, and additional 220 international funds which actively invest in Israel. In addition, as of 2010, Israel led the world in venture capital invested per capita. Israel attracted $170 per person compared to $75 in the USA. About two thirds of the funds invested were from foreign sources, and the rest domestic. In 2013, Wix.com joined 62 other Israeli firms on the Nasdaq. Read more about Venture capital in Israel.

Canada

Canadian technology companies have attracted interest from the global venture capital community partially as a result of generous tax incentive through the Scientific Research and Experimental Development (SR&ED) investment tax credit program. The basic incentive available to any Canadian corporation performing R&D is a refundable tax credit that is equal to 20% of "qualifying" R&D expenditures (labour, material, R&D contracts, and R&D equipment). An enhanced 35% refundable tax credit of available to certain (i.e. small) Canadian-controlled private corporations (CCPCs). Because the CCPC rules require a minimum of 50% Canadian ownership in the company performing R&D, foreign investors who would like to benefit from the larger 35% tax credit must accept minority position in the company, which might not be desirable. The SR&ED program does not restrict the export of any technology or intellectual property that may have been developed with the benefit of SR&ED tax incentives.

Canada also has a fairly unusual form of venture capital generation in its Labour Sponsored Venture Capital Corporations (LSVCC). These funds, also known as Retail Venture Capital or Labour Sponsored Investment Funds (LSIF), are generally sponsored by labor unions and offer tax breaks from government to encourage retail investors to purchase the funds. Generally, these Retail Venture Capital funds only invest in companies where the majority of employees are in Canada. How-

ever, innovative structures have been developed to permit LSVCCs to direct in Canadian subsidiaries of corporations incorporated in jurisdictions outside of Canada.

Switzerland

Many Swiss start-ups are university spin-offs, in particular from its federal institutes of technology in Lausanne and Zurich. According to a study by the London School of Economics analysing 130 ETH Zurich spin-offs over 10 years, about 90% of these start-ups survived the first five critical years, resulting in an average annual IRR of more than 43%. Switzerland's most active early-stage investors are The Zurich Cantonal Bank, investiere.ch as well as a number of angel investor clubs.

Europe

Europe has a large and growing number of active venture firms. Capital raised in the region in 2005, including buy-out funds, exceeded €60 billion, of which €12.6 billion was specifically allocated to venture investment. Trade association Invest Europe has a list of active member firms and industry statistics. In 2006, the top three countries receiving the most venture capital investments were the United Kingdom (515 minority stakes sold for €1.78 billion), France (195 deals worth €875 million), and Germany (207 deals worth €428 million) according to data gathered by Library House.

European venture capital investment in the second quarter of 2007 rose 5% to €1.14 billion from the first quarter. However, due to bigger sized deals in early stage investments, the number of deals was down 20% to 213. The second quarter venture capital investment results were significant in terms of early-round investment, where as much as €600 million (about 42.8% of the total capital) were invested in 126 early round deals (which comprised more than half of the total number of deals).

In 2012, in France, according to a study by AFIC (the French Association of VC firms), €6.1B have been invested through 1,548 deals (39% in new companies, 61% in new rounds) by firms such as Partech Ventures or Innovacom.

A study published in early 2013 showed that contrary to popular belief, European startups backed by venture capital do not perform worse than US counterparts. European venture-backed firms have an equal chance of listing on the stock exchange, and a slightly lower chance of a "trade sale" (acquisition by other company).

In contrast to the US, European media companies and also funds have been pursuing a media for equity business model as a form of venture capital investment.

Leading early-stage venture capital investors in Europe include Mark Tluszcz of Mangrove Capital Partners and Danny Rimer of Index Ventures, both of whom were named on *Forbes* Magazine's Midas List of the world's top dealmakers in technology venture capital in 2007.

Asia

India is fast catching up with the West in the field of venture capital and a number of venture capital funds have a presence in the country (IVCA). In 2006, the total amount of private equity

and venture capital in India reached $7.5 billion across 299 deals. In the Indian context, venture capital consists of investing in equity, quasi-equity, or conditional loans in order to promote unlisted, high-risk, or high-tech firms driven by technically or professionally qualified entrepreneurs. It is also defined as "providing seed", "start-up and first-stage financing". It is also seen as financing companies that have demonstrated extraordinary business potential. Venture capital refers to capital investment; equity and debt ;both of which carry indubitable risk. The risk anticipated is very high. The venture capital industry follows the concept of "high risk, high return", innovative entrepreneurship, knowledge-based ideas and human capital intensive enterprises have taken the front seat as venture capitalists invest in risky finance to encourage innovation.

China is also starting to develop a venture capital industry (CVCA).

Vietnam is experiencing its first foreign venture capitals, including IDG Venture Vietnam ($100 million) and DFJ Vinacapital ($35 million)

Middle East and North Africa

The Middle East and North Africa (MENA) venture capital industry is an early stage of development but growing. The MENA Private Equity Association Guide to Venture Capital for entrepreneurs lists VC firms in the region, and other resources available in the MENA VC ecosystem. Diaspora organization TechWadi aims to give MENA companies access to VC investors based in the US.

Southern Africa

The Southern African venture capital industry is developing. The South African Government and Revenue Service is following the international trend of using tax efficient vehicles to propel economic growth and job creation through venture capital. Section 12 J of the *Income Tax Act* was updated to include venture capital. Companies are allowed to use a tax efficient structure similar to VCTs in the UK. Despite the above structure, the government needs to adjust its regulation around intellectual property, exchange control and other legislation to ensure that Venture capital succeeds.

Currently, there are not many venture capital funds in operation and it is a small community; however a small number of funds are available. Funds are difficult to come by and very few firms have managed to get funding despite demonstrating tremendous growth potential. The majority of the venture capital in Southern Africa is centered on South Africa and Kenya.

Confidential Information

Unlike public companies, information regarding an entrepreneur's business is typically confidential and proprietary. As part of the due diligence process, most venture capitalists will require significant detail with respect to a company's business plan. Entrepreneurs must remain vigilant about sharing information with venture capitalists that are investors in their competitors. Most venture capitalists treat information confidentially, but as a matter of business practice, they do not typically enter into Non Disclosure Agreements because of the potential liability issues those agreements entail. Entrepreneurs are typically well advised to protect truly proprietary intellectual property.

Limited partners of venture capital firms typically have access only to limited amounts of information with respect to the individual portfolio companies in which they are invested and are typically bound by confidentiality provisions in the fund's limited partnership agreement.

Governmental Regulations

There are several strict guidelines regulating those that deal in venture capital. Namely, they are not allowed to advertise or solicit business in any form as per the U.S. Securities and Exchange Commission guidelines.

In Popular Culture

In Books

- Mark Coggins' novel *Vulture Capital* (2002) features a venture capitalist protagonist who investigates the disappearance of the chief scientist in a biotech firm in which he has invested. Coggins also worked in the industry and was co-founder of a dot-com startup.
- Drawing on his experience as reporter covering technology for the *New York Times*, Matt Richtel produced the novel *Hooked* (2007), in which the actions of the main character's deceased girlfriend, a Silicon Valley venture capitalist, play a key role in the plot.

In Comics

- In the *Dilbert* comic strip, a character named "Vijay, the World's Most Desperate Venture Capitalist" frequently makes appearances, offering bags of cash to anyone with even a hint of potential. In one strip, he offers two small children with good math grades money based on the fact that if they marry and produce an engineer baby he can invest in the infant's first idea. The children respond that they are already looking for mezzanine funding.
- Robert von Goeben and Kathryn Siegler produced a comic strip called *The VC* between the years 1997 and 2000 that parodied the industry, often by showing humorous exchanges between venture capitalists and entrepreneurs. Von Goeben was a partner in Redleaf Venture Management when he began writing the strip.

In Film

- In *Wedding Crashers* (2005), Jeremy Grey (Vince Vaughn) and John Beckwith (Owen Wilson) are bachelors who create appearances to play at different weddings of complete strangers, and a large part of the movie follows them posing as venture capitalists from New Hampshire.
- The documentary, *Something Ventured* (2011), chronicled the recent history of American technology venture capitalists.

In Television

- In the TV series *Dragons' Den*, various startup companies pitch their business plans to a panel of venture capitalists.

- In the ABC reality television show *Shark Tank*, venture capitalists ("Sharks") hear entrepreneurs' pitches and select which ones they will invest in.
- The short lived Bravo reality TV show *Start-Ups: Silicon Valley* had participation from venture capitalists in Silicon Valley.
- The sitcom *Silicon Valley (TV series)* parodies startup companies and venture capital culture.

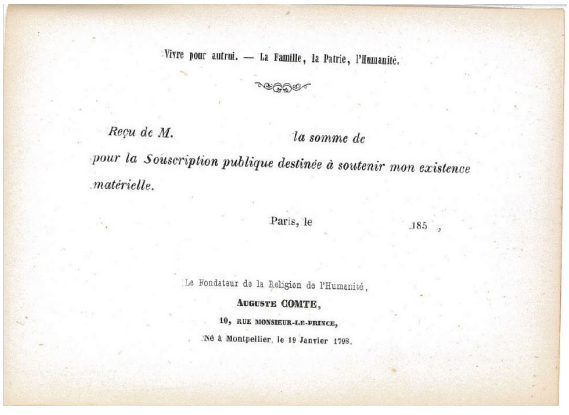
Crowdfunding

Crowdfunding (a form of crowdsourcing) is the practice of funding a project or venture by raising monetary contributions from a large number of people, today often performed via Internet-mediated registries, but the concept can also be executed through mail-order subscriptions, benefit events, and other methods. Crowdfunding is a form of alternative finance, which has emerged outside of the traditional financial system.

The crowdfunding model is based on three types of actors: the project initiator who proposes the idea and/or project to be funded, individuals or groups who support the idea, and a moderating organization (the "platform") that brings the parties together to launch the idea.

In 2013, over US$5.1 billion were raised via crowdfunding worldwide, which increased to US$16 billion in 2014 and was estimated at over US$34 billion in 2015.

History


Vivre pour autrui. — La Famille, la Patrie, l'Humanité.

Reçu de M. la somme de
pour la Souscription publique destinée à soutenir mon existence matérielle.

Paris, le 185 ,

Le Fondateur de la Religion de l'Humanité,
AUGUSTE COMTE,
10, RUE MONSIEUR-LE-PRINCE,
Né à Montpellier, le 19 Janvier 1798.

A printed receipt 135 x 97 mm issued between 1850 and 1857 to support the French philosopher Auguste Comte

Crowdfunding has a long history with more than one root. Books have been crowdfunded for centuries: Authors and publishers would advertise book projects in praenumeration or subscription schemes. The book would be written and published if enough subscribers signaled their readiness to buy the book once it was out. The subscription business model is not exactly crowdfunding, since the actual flow of money only begins with the arrival of the product. The list of subscribers has, though, the power to create the necessary confidence among investors that is needed to risk the publication.

War bonds are theoretically a form of crowdfunding military conflicts. London's mercantile community saved the Bank of England in the 1730s when customers demanded their pounds to be converted into gold - they supported the currency until confidence in the pound was restored, thus crowdfunded their own money.

A clearer case of modern crowdfunding is Auguste Comte's scheme to issue notes for the public support of his further work as a philosopher. The "Premiere Circulaire Annuelle adressée par l'auteur du *Systeme de Philosophie Positive*" was published on 14 March 1850, and several of these notes, blank and with sums have survived.

The cooperative movement of the 19th and 20th centuries is a broader precursor. It generated collective groups, such as community or interest-based groups, pooling subscribed funds to develop new concepts, products, and means of distribution and production, particularly in rural areas of Western Europe and North America. In 1885, when government sources failed to provide funding to build a monumental base for the Statue of Liberty, a newspaper-led campaign attracted small donations from 160,000 donors.

Modern crowdfunding is a new phenomenon mostly with its use of social media. It first gained popular and mainstream use here in arts and music communities.

The first instance of crowdfunding was in 1997, when fans underwrote an entire U.S. tour for the British rock group Marillion, raising US$60,000 in donations by means of a fan-based Internet campaign. The idea was conceived and managed by fans without any involvement from the band, although Marillion themselves used this method successfully to fund the recording and marketing of their 2001 album *Anoraknophobia*, the first crowdfunded recording. They continued to do so with subsequent albums *Marbles* (2004), *Happiness is the Road* (2008), and *Sounds That Can't Be Made* (2012).

In the film industry, independent writer/director Mark Tapio Kines designed a website in 1997 for his then-unfinished first feature film *Foreign Correspondents*. By early 1999, he had raised more than US$125,000 on the Internet from at least 25 fans, providing him with the funds to complete his film.

In 2002, the "Free Blender" campaign was an early software crowdfunding precursor. The campaign aimed for open-sourcing the Blender raytracer software by collecting $100,000 from the community while offering additional benefits for donating members.

Crowdfunding gained traction after the launch of ArtistShare, in 2003. Following ArtistShare, more crowdfunding sites started to appear on the web such as IndieGoGo (2008), Kickstarter (2009), and Microventures (2010). However, Sellaband, started in 2006 as a music-focused platform, initially controlled the crowdfunding market. This can be contributed to creators and funders, who perceive the platform to be more valuable with more members. Later, Kickstarter gained popularity for its wide-ranging focus. Both platforms prohibit equity funding. Though Sellaband offered revenue sharing, a type of equity crowdfunding, for three years after the platform's founding. It was later controlled by a German company and heightened security restrictions.

The phenomenon of crowdfunding is older than the term "crowdfunding". The earliest recorded use of the word was by Michael Sullivan in fundavlog in August 2006.

Types

The Crowdfunding Centre's May 2014 report identified two primary types of crowdfunding:

1. Rewards crowdfunding: entrepreneurs presell a product or service to launch a business concept without incurring debt or sacrificing equity/shares.
2. Equity crowdfunding: the backer receives shares of a company, usually in its early stages, in exchange for the money pledged.

Reward-Based

Reward-based crowdfunding has been used for a wide range of purposes, including motion picture promotion, free software development, inventions development, scientific research, and civic projects.

For a joint study between York University, Toronto, Ontario, and Universite Lille Nord de France, in Lille, France, published on June 2, 2014, two types of reward-based crowdfunding were identified: "'Keep-it-All' (KIA) where the entrepreneurial firm sets a fundraising goal and keeps the entire amount raised regardless of whether or not they meet their goal, and 'All-or-Nothing' (AON) where the entrepreneurial firm sets a fundraising goal and keeps nothing unless the goal is achieved." The study's researchers analyzed 22,875 crowdfunding campaigns, with targets of between US$5,000 and US$200,000, and concluded: "Overall, [all-or-nothing] fundraising campaigns involved substantially larger capital goals, and were much more likely to be successful at achieving their goals." In its review of the study outcomes, the *Inc.com* publication explained that potential investors are more inclined to support "all-or-nothing strategy" initiatives, whereby a substandard product will not be released if the funding goal is not achieved. The *Inc.com* review concluded that "AON" projects typically provide more detailed information on the campaign.

Many characteristics of rewards-based crowdfunding, also called non-equity crowdfunding, have been identified by research studies. In rewards-based crowdfunding, funding does not rely on location. The distance between creators and investors on Sellaband was about 3,000 miles when the platform introduced royalty sharing. The funding for these projects is distributed unevenly, with a few projects accounting for the majority of overall funding. Additionally, funding increases as a project nears its goal, encouraging what is called "herding behavior". Research also shows that friends and family account for a large, or even majority, portion of early fundraising. This capital may encourage subsequent funders to invest in the project. While funding does not depend on location, observation shows that funding is largely tied to the locations of traditional financing options. In reward-based crowdfunding, funders are often too hopeful about project returns and must revise expectations when returns are not met.

Equity

Equity crowdfunding is the collective effort of individuals to support efforts initiated by other people or organizations through the provision of finance in the form of equity. In the United States, legislation that is mentioned in the 2012 JOBS Act will allow for a wider pool of small investors with fewer restrictions following the implementation of the act.

Unlike nonequity crowdfunding, equity crowdfunding contains heightened "information asymmetries". The creator must not only produce the product for which they are raising capital, but also create equity through the construction of a company.

Syndicates, which involve many investors following the strategy of a single lead investor, can be effective in reducing information asymmetry and in avoiding the outcome of market failure associated with equity crowdfunding.

Software Value Token

Another kind of crowdfunding is to raise funds for a project where a digital or software-based value token is offered as a reward to funders. These value tokens may or may not exist at the time of the crowdsale, and may require substantial development effort and eventual software release before the token is live and establishes a market value. Although funds may be raised simply for the value token itself, funds raised on blockchain-based crowdfunding can also represent equity, bonds, or even "market-maker seats of governance" for the entity being funded.

Examples of such crowdsales are Augur decentralized, distributed prediction market software which raised US$4 million from more than 3500 participants; Ethereum blockchain; Digix/DigixDAO; and "*The DAO*."

Debt-Based

Debt-based crowdfunding (also known as "peer to peer", "P2P", "marketplace lending", or "crowdlending") arose with the founding of Zopa in the UK in 2005 and in the US in 2006, with the launches of Lending Club and Prosper.com.

Borrowers apply online, generally for free, and their application is reviewed and verified by an automated system, which also determines the borrower's credit risk and interest rate. Investors buy securities in a fund which makes the loans to individual borrowers or bundles of borrowers. Investors make money from interest on the unsecured loans; the system operators make money by taking a percentage of the loan and a loan servicing fee.

In 2009, institutional investors entered the P2P lending arena; for example in 2013, Google invested $125 million in Lending Club.

In 2014 in the US, P2P lending totalled about $5 billion. In 2014 in the UK, P2P platforms lent businesses £749 million, a growth of 250% from 2012 to 2014, and lent retail customers £547 million, a growth of 108% from 2012 to 2014. In both countries in 2014, about 75% of all the money transferred through crowdfunding went through P2P platforms. Lending Club went public in December 2014 at a valuation around $9 billion.

Litigation

Litigation crowdfunding allows plaintiffs or defendants to reach out to hundreds of their peers simultaneously in a semiprivate and confidential manner to obtain funding, either seeking donations or providing a reward in return for funding. It also allows investors to purchase a stake in a claim they have funded, which may allow them to get back more than their investment if the case

succeeds (the reward is based on the compensation received by the litigant at the end of his or her case, known as a contingent fee in the United States, a success fee in the United Kingdom, or a *pactum de quota litis* in many civil law systems).

Donation-Based

Charity donation-based crowdfunding is the collective effort of individuals to help charitable causes.

A form of charity crowdfunding is civic crowdfunding, in which funds are raised to enhance public life and space.

Role of the Crowd

The inputs of the individuals in the crowd trigger the crowdfunding process and influence the ultimate value of the offerings or outcomes of the process. Each individual acts as an agent of the offering, selecting and promoting the projects in which they believe. They sometimes play a donor role oriented towards providing help on social projects. In some cases, they become shareholders and contribute to the development and growth of the offering. Individuals disseminate information about projects they support in their online communities, generating further support (promoters).

Motivation for consumer participation stems from the feeling of being at least partly responsible for the success of others' initiatives (desire for patronage), striving to be a part of a communal social initiative (desire for social participation), and seeking a payoff from monetary contributions (desire for investment).

Additionally, individuals participate in crowdfunding to see new and innovative products before the public. Early access often allows funders to participate more directly in the development of the product. Crowdfunding is also particularly attractive to funders who are family and friends of a creator. It helps to mediate the terms of their financial agreement and manage each group's expectations for the project.

An individual who takes part in crowdfunding initiatives tends to reveal several distinct traits: innovative orientation, which stimulates the desire to try new modes of interacting with firms and other consumers; social identification with the content, cause or project selected for funding, which sparks the desire to be a part of the initiative; (monetary) exploitation, which motivates the individual to participate by expecting a payoff.

Crowdfunding platforms are motivated to generate income by drawing worthwhile projects and generous funders. These sites also seek widespread public attention for their projects and platform.

Crowdfunding websites helped companies and individuals worldwide raise US$89 million from members of the public in 2010, $1.47 billion in 2011, and $2.66 billion in 2012 — $1.6 billion of the 2012 amount was raised in North America. In 2012, more than one million individual campaigns were established globally and the industry was projected to grow to US$5.1 billion in 2013. and to reach US$1 trillion in 2025.

A May 2014 report, released by the United Kingdom-based The Crowdfunding Centre and titled "The State of the Crowdfunding Nation", presented data showing that during March 2014, more

than US$60,000 were raised on an hourly basis via global crowdfunding initiatives. Also during this period, 442 crowdfunding campaigns were launched globally on a daily basis.

Crowdfunding Platforms

As of 2012, over 450 crowdfunding platforms had been established. Project creators need to exercise their own due diligence to understand which platform is the best to use depending on the type of project that they want to launch. Fundamental differences exist in the services provided by many crowdfunding platforms.

For instance, CrowdCube and Seedrs are Internet platforms which enable small companies to issue shares over the Internet and receive small investments from registered users in return. While CrowdCube is meant for users to invest small amounts and acquire shares directly in start-up companies, Seedrs pools the funds to invest in new businesses, as a nominated agent.

Curated crowdfunding platforms serve as "network orchestrators" by curating the offerings that are allowed on the platform. They create the necessary organizational systems and conditions for resource integration among other players to take place.

Relational mediators act as an intermediary between supply and demand. They replace traditional intermediaries (such as traditional record companies, venture capitalists). These platforms link new artists, designers, project initiators with committed supporters who believe in the persons behind the projects strongly enough to provide monetary support.

Growth engines focus on the strong inclusion of investors. They "disintermediate" by eliminating the activity of a service provider previously involved in the network. The platforms that use crowdfunding to seek stakes from a community of high net-worth private investors and match them directly with project initiators.

Significant Campaigns

Early Campaigns

Electric Eel Shock, a Japanese rock band in 2004 raised £10,000 from 100 fans (the Samurai 100) by offering them a lifetime membership on the band's guestlist. Two years later, they became the fastest band to raise a US$50,000 budget on SellaBand.

Franny Armstrong later created a donation system for her feature film *The Age of Stupid*. Over five years, from June 2004 to June 2009 (release date), she raised £1,500,000. In December 2004, French entrepreneurs and producers Benjamin Pommeraud and Guillaume Colboc, launched a public Internet donation campaign to fund their short science fiction film, *Demain la Veille (Waiting for Yesterday)*. Within a month, they managed to raise €17,000 online, allowing them to shoot their film.

Highest-Grossing Campaigns

The highest reported funding by a crowdfunded project to date is *Star Citizen*, an online space trading and combat video game being developed by Chris Roberts and Cloud Imperium Games,

which—as of 7 April 2016—claimed to have raised over USD$111,600,000, beating the previous record of $10,266,844 set by Pebble Watch. The watch was created by Eric Migicovsky and allows its wearers to connect to their mobile phones. Migicovsky raised $375,000 through angel investing before starting a Kickstarter campaign on April 11, 2012. The campaign set a $100,000 goal and vowed to deliver a watch for every investment over a certain amount. The Pebble Watch campaign raised over $10 million in 37 days. However, Migicovsky was not able to deliver the watches for over a year after the campaign's close.

The Glowforge 3D laser printer claimed $27.9 million in preorder sales for its own crowdfunding program in November 2015, breaking the record for the most crowdfunded sales in 30 days.

Kickstarter Campaigns

On April 17, 2014, the *Guardian* media outlet published a list of "20 of the most significant projects" launched on the Kickstarter platform prior to the date of publication:

- Musician Amanda Palmer raised US$1.2 million from 24,883 backers in June 2012 to make a new album and art book.
- American Hans Fex raised $1,226,811 from 5,030 backers in March 2014 for his "Mini Museum" project that he describes on his Kickstarter page:

For the past 35 years I have collected amazing specimens ... I then carefully break those specimens down into smaller pieces, embed them in acrylic ... Each mini museum is a handcrafted, individually numbered limited edition ... The majority of these specimens were acquired directly from contacting specialists recommended to me by museum curators, research scientists and university historians.

- The "Coolest Cooler" raised a total of $13,285,226 from 62,642 backers. The cooler features a blender, waterproof Bluetooth speakers and an LED light.
- Writer Rob Thomas raised $5.7 million from 91,585 backers in April 2013 to create a feature film version of the defunct television series *Veronica Mars*. The nine award levels were initially available to backers in 21 countries, including Brazil, Canada, Finland, and Germany. Lead actress Kristen Bell explained on the launch date of the project: "I promise if we hit our goal, we will make the sleuthiest, snarkiest, it's-all-fun-and-games-'til-one-of-you-gets-my-foot-up-your-ass movie we possibly can."
- Actor, writer and director Zach Braff raised $3.1 million from 46,520 backers in May 2013 to create the feature film *Wish I Was Here*, which premiered at the Sundance Film Festival. Braff's campaign was financially complemented by Worldview Entertainment.
- Filmmaker Spike Lee raised $1.4 million from 6,421 backers in August 2013 to produce *Da Sweet Blood of Jesus*. The film was released on June 22, 2014, at the American Black Film Festival as the closing film, and released in theaters and on video on demand on February 13, 2015, by Gravitas Ventures.
- YouTube celebrity Freddie Wong, who owns the company RocketJump, raised $808,000 to produce the second series of the Web-based series *Video Game High School*. In February 2013, 10,613 backers committed funds to the project following the series' first season, which was also funded on Kickstarter.

- Performance artist Marina Abramovic raised $661,000 from 4,765 backers in August 2013 after paying $950,000 to buy a building that would house the "Marina Abramovic Institute". The building, as well as a corresponding organization, was foremost to the campaign, as Abramovic seeks to feature and maintain "long durational work, including that of performance art, dance, theatre, film, music, opera, and other forms that may develop in the future".
- The Kano technology company raised $1.5 million from 13,387 backers in December 2013 to create a "computer and coding kit for all ages." In June 2014, Kano will ship a case, a keyboard, a speaker, a wireless server, and software that encourages children to learn the "Kano Blocks" coding language, a set of computer programming skills.
- The Flint and Tinder company raised $1.1 million from 9,226 backers in April 2013 for its "10-Year Hoodie" hooded sweatshirt that consists of 100% cotton and is made in the U.S. The company explains on its website: "Companies have systematically lowered your expectations to the point where it's hard to know what to expect anymore. But while they're busy off-shoring, out-sourcing and generally making things as cheaply and quickly as possible. It ends here." According to Flint and Tinder, one million units of the product have been sold.
- Zack Brown raised $55,000 from over 6900 backers in September 2014 to make a bowl of potato salad. Noteworthy is that his initial goal was only $10, but his campaign went viral and got a lot of attention. Brown ended up throwing a potato salad party with over 3,000 pounds of potatoes.

Controversy

Although musician Palmer raised over $1 million through the Kickstarter crowdfunding process, she received criticism afterwards, some of which was published in prominent media outlets. Writing for *the New Yorker*, Joshua Clover initially focused upon issues specific to Palmer, but then broadened the scope of his examination to include financial conduct in the Internet era. ("you can't spell Internet without intern.") According to Clover, Palmer initially invited local musicians to play on stage with her band and her on the stops of her U.S. tour, but offered to "feed you beer, hug/high-five you up and down (pick your poison), give you merch, and thank you mightily," instead of monetary compensation, as the money raised on Kickstarter was allocated to the production of the next studio album—in accordance with the campaign—as well as other financial commitments. This decision was then overturned a week later, as Palmer explained on her blog:

My management team tweaked and reconfigured financials, pulling money from this and that other budget (mostly video) and moving it to the tour budget. All of the money we took out of those budgets is going to the crowd-sourced musicians fund. We are going to pay the volunteer musicians every night ... We're also retroactively sending a payment to the folks who've already played with us.

Clover also made reference to the British political situation at the time, writing "that even newly minted haves, like Amanda Palmer, really need to treat have-nots, such as local musicians, a whole lot better." In a September 12, 2012 *New York Times* article, American Federation of Musicians President Raymond M. Hair Jr. explained, "If there's a need for the musician to be on the stage,

then there ought to be compensation for it." The following day, prominent sound engineer and musician Steve Albini was also vocal and, after initially referring to Palmer as an "idiot," apologized, writing that he had not met her or heard her music. Following his apology, in which he admits "it's my fault," Albini asserted: "It should be obvious also that having gotten over a million dollars from such an effort that it is just plain rude to ask for further indulgences from your audience, like playing in your backing band for free."

Controversy arose in the crowdfunding sector in May 2014 when an adult entertainer was blocked by platform GiveForward. Following an allergy reaction, Eden Alexander required intensive medical treatment, but doctors, aware of her occupation, associated her health issue with drug use and did not provide the necessary care to a sufficient extent; as a consequence, Alexander's condition worsened. Alexander then launched a GiveForward crowdfunding campaign to cover her medical bills, but the campaign was removed from the platform after a social media exchange, whereby a potential donor requested nude pictures as reciprocation and Alexander agreed to the offer—this was noticed within a brief time frame and WePay, the payment service used by GiveForward, deemed the negotiation a violation of WePay's terms of service, considering it the offer of "Adult or adult-related services ... Adult or adult-related content ... and Obscene or pornographic items." Alexander restarted her crowdfunding campaign by using the services of Tilt.com. The campaign ended on June 13, 2014 with $10,550 raised.

Following the Alexander incident of May 2014, WePay CEO Bill Clerico wrote an explanation of their terms in relation to adult services to the *TechCrunch* media outlet:

WePay faces tremendous scrutiny from its partners & card networks around the enforcement of policy, especially when it comes to adult content. We must enforce these policies or we face hefty fines or the risk of shutdown for the many hundreds of thousands of merchants on our service. We're incredibly sorry that these policies added to the difficulties that Eden is facing. We offered to help her setup a new campaign that complied with our policies, but I believe that her friends chose to work with another company instead. We continue to stand by to help if Eden would like to work with us further, and we are reviewing both our Terms of Service & account shutdown process to see how we can avoid situations like this in the future.

Clerico further stated that such practice is "a relatively common requirement in the industry" and assured the *TechCrunch* writer that WePay agreed to cease Alexander's campaign "because we are contractually required to."

Crowdfunding Applications

Crowdfunding is being explored as a potential funding mechanism for creative work such as blogging and journalism, music, independent film, and for funding startup companies. Community music labels are usually for-profit organizations where "fans assume the traditional financier role of a record label for artists they believe in by funding the recording process".

Since pioneering crowdfunding in the film industry, Spanner Films has published a "how to" guide. A *Financialist* article published in mid-September 2013 stated that "the niche for crowdfunding exists in financing films with budgets in the [US]$1 to $10 million range" and crowdfunding campaigns are "much more likely to be successful if they tap into a significant

pre-existing fan base and fulfill an existing gap in the market." Innovative new platforms, such as RocketHub, have emerged that combine traditional funding for creative work with branded crowdsourcing—helping artists and entrepreneurs unite with brands "without the need for a middle man."

Philanthropy and Civic Projects

A variety of crowdfunding platforms have emerged to allow ordinary web users to support specific philanthropic projects without the need for large amounts of money.

GlobalGiving allows individuals to browse through a selection of small projects proposed by non-profit organizations worldwide, donating funds to projects of their choice. Microcredit crowdfunding platforms such as Kiva (organization) and Wokai facilitate crowdfunding of loans managed by microcredit organizations in developing countries.

The US-based nonprofit Zidisha offers a new twist on these themes, applying a direct person-to-person lending model to microcredit lending for low-income small business owners in developing countries. Zidisha borrowers who pass a background check may post microloan applications directly on the Zidisha website, specifying proposed credit terms and interest rates. Individual web users in the US and Europe can lend as little as one US dollar, and Zidisha's crowdfunding platform allows lenders and borrowers to engage in direct dialogue. Repaid principal and interest is returned to the lenders, who may withdraw the cash or use it to fund new loans.

DonorsChoose.org, founded in 2000, allows public school teachers in the United States to request materials for their classrooms. Individuals can lend money to teacher-proposed projects, and the organization fulfills and delivers supplies to schools. There are also a number of own-branded university crowdfunding websites, which enable students and staff to create projects and receive funding from alumni of the university or the general public.

Several dedicated civic crowdfunding platforms have emerged in the US and the UK, some of which have led to the first direct involvement of governments in crowdfunding. Similarly, dedicated Humanitarian Crowdfunding initiatives are emerging, involving humanitarian organizations, volunteers and supports in solving and modeling how to build innovative crowdfunding solutions for the humanitarian community.

One crowdfunding project, iCancer, was used to support a Phase 1 trial of AdVince an anti-cancer drug in 2016.

Real Estate Crowdfunding

Real estate crowdfunding is the online pooling of capital from investors to fund mortgages secured by real estate, such as "fix and flip" redevelopment of distressed or abandoned properties, and equity for commercial and residential projects, acquisition of pools of distressed mortgages, home buyer down payments and similar real estate related outlets. Investment, via specialised online platforms, is generally completed under Title II of the JOBS Act and is limited to accredited investors. The platforms offer low minimum investments, often $100 – $10,000. There are over 75 real estate crowdfunding platforms in the United States.

The growth of real estate crowdfunding is a global tendency. During 2014 and 2015, more than 150 platforms have been created throughout the world, such as in China, Middle-East, or France. In Europe, some compare this growing industry to that of e-commerce ten years ago.

Intellectual Property Exposure

One of the challenges of posting new ideas on crowdfunding sites is there may be little or no intellectual property (IP) protection provided by the sites themselves. Once an idea is posted, it can be copied. As Slava Rubin, founder of IndieGoGo said: "We get asked that all the time, 'How do you protect me from someone stealing my idea?' We're not liable for any of that stuff." Inventor advocates, such as Simon Brown, founder of the UK-based United Innovation Association, counsel that ideas can be protected on crowdfunding sites through early filing of patent applications, use of copyright and trademark protection as well as a new form of idea protection supported by the World Intellectual Property Organization called Creative Barcode.

Benefits and Risks

Benefits for the Creator

Crowdfunding campaigns provide producers with a number of benefits, beyond the strict financial gains. The following are non financial benefits of crowdfunding.

- Profile – a compelling project can raise a producer's profile and provide a boost to their reputation.
- Marketing – project initiators can show there is an audience and market for their project. In the case of an unsuccessful campaign, it provides good market feedback.
- Audience engagement – crowd funding creates a forum where project initiators can engage with their audiences. Audience can engage in the production process by following progress through updates from the creators and sharing feedback via comment features on the project's crowdfunding page.
- Feedback – offering pre-release access to content or the opportunity to beta-test content to project backers as a part of the funding incentives provides the project initiators with instant access to good market testing feedback.

There are also financial benefits to the creator. For one, crowdfunding allows creators to attain low-cost capital. Traditionally, a creator would need to look to "personal savings, home equity loans, personal credit cards, friends and family members, angel investors, and venture capitalists." With crowdfunding, creators can find funders from around the world, sell both their product and equity, and benefit from increased information flow. Additionally, crowdfunding that supports pre-buying allows creators to obtain early feedback on the product.

Proponents of the crowdfunding approach argue that it allows good ideas which do not fit the pattern required by conventional financiers to break through and attract cash through the wisdom of the crowd. If it does achieve "traction" in this way, not only can the enterprise secure seed funding to begin its project, but it may also secure evidence of backing from potential customers and ben-

efit from word of mouth promotion in order to reach the fundraising goal. Another potential positive effect is the propensity of groups to "produce an accurate aggregate prediction" about market outcomes as identified by author James Surowiecki in his book *The Wisdom of Crowds*, thereby placing financial backing behind ventures likely to succeed.

Proponents also identify a potential outcome of crowdfunding as an exponential increase in available venture capital. One report claims that If every American family gave one percent of their investable assets to crowdfunding, $300 billion (a 10X increase) would come into venture capital. Proponents also cite that a benefit for companies receiving crowdfunding support is that they retain control of their operations, as voting rights are not conveyed along with ownership when crowdfunding.

As part of his response to the Amanda Palmer Kickstarter controversy, Albini expressed his supportive views of crowdfunding for musicians, explaining: "I've said many times that I think they're part of the new way bands and their audience interact and they can be a fantastic resource, enabling bands to do things essentially in cooperation with their audience." Albini described the concept of crowdfunding as "pretty amazing."

Risks and Barriers for the Creator

Crowdfunding also comes with a number of potential risks or barriers. For the creator, as well as the investor, studies show that crowdfunding contains "high levels of risk, uncertainty, and information asymmetry."

- Reputation – failure to meet campaign goals or to generate interest results in a public failure. Reaching financial goals and successfully gathering substantial public support but being unable to deliver on a project for some reason can severely negatively impact one's reputation.
- IP protection – many Interactive Digital Media developers and content producers are reluctant to publicly announce the details of a project before production due to concerns about idea theft and protecting their IP from plagiarism. Creators who engage in crowdfunding are required to release their product to the public in early stages of funding and development, exposing themselves to the risk of copy by competitors.
- Donor exhaustion – there is a risk that if the same network of supporters is reached out to multiple times, that network will eventually cease to supply necessary support.
- Public fear of abuse – concern among supporters that without a regulatory framework, the likelihood of a scam or an abuse of funds is high. The concern may become a barrier to public engagement.

For crowdfunding of equity stock purchases, there is some research in social psychology that indicates that, like in all investments, people don't always do their due diligence to determine if it's a sound investment before investing, which leads to making investment decisions based on emotion rather than financial logic.

By using crowdfunding, creators also forgo potential support and value that a single angel investor or venture capitalist might offer. Likewise, crowdfunding requires that creators manage their

investors. This can be time consuming and financially burdensome as the number of investors in the crowd rises.

Crowdfunding draws a crowd: investors and other interested observers who follow the progress, or lack of progress, of a project. Sometimes it proves easier to raise the money for a project than to make the project a success. Managing communications with a large number of possibly disappointed investors and supporters can be a substantial, and potentially diverting, task.

Some of the most popular fundraisings are for commercial companies which use the process to reach customers and at the same time market their products and services. This favors companies like microbreweries and specialist restaurants – in effect creating a "club" of people who are customers as well as investors. In the USA in 2015 new rules from the SEC to regulate equity crowdfunding will mean that larger businesses with more than 500 investors and more than $25 million in assets will have to file reports like a public company. The Wall Street Journal commented "It is all the pain of an IPO without the benefits of the IPO." These two trends may mean crowdfunding is most suited to small consumer facing companies rather than tech start ups

Hedge Fund

A hedge fund is an investment fund that pools capital from a limited number of accredited individual or institutional investors and invests in a variety of assets, often with complex portfolio-construction and risk-management techniques. It is administered by a professional management firm, and often structured as a limited partnership, limited liability company, or similar vehicle. Hedge funds are generally distinct from mutual funds as their use of leverage is not capped by regulators and distinct from private equity funds as the majority of hedge funds invest in relatively liquid assets.

The name "hedge fund" originated from the paired long and short positions that the first of these funds used to hedge market risk. Over time, the types and nature of the hedging concepts expanded, as did the different types of investment vehicles. Today, hedge funds engage in a diverse range of markets and strategies and employ a wide variety of financial instruments and risk management techniques.

Hedge funds are made available only to certain accredited investors and cannot be offered or sold to the general public. As such, they generally avoid direct regulatory oversight, bypass licensing requirements applicable to investment companies, and operate with greater flexibility than mutual funds and other investment funds. However, regulations passed in the United States and Europe after the financial crisis of 2007–08 were intended to increase government oversight of hedge funds and eliminate certain regulatory gaps.

While hedge funds have existed for many decades, and become increasingly popular, growing to be one of the world's largest asset management classes by 2014, according to a report by Hedge Fund Research, published in October 2015, hedge fund industry assets shrank "by $95 billion to 2.87 trillion in the third quarter, making this their worst year since 2008. One of the best performing hedge funds in 2014 — William Ackman's Pershing Square Holdings portfolio which had roughly

$20 billion earlier in 2015 — declined by 12.6 percent by October to $16.5 billion in assets.

Hedge funds are most often open-ended and allow additions or withdrawals by their investors (generally on a monthly or quarterly basis). A hedge fund's value is calculated as a share of the fund's net asset value, meaning that increases and decreases in the value of the fund's investment assets (and fund expenses) are directly reflected in the amount an investor can later withdraw.

Many hedge fund investment strategies aim to achieve a positive return on investment regardless of whether markets are rising or falling ("absolute return"). Hedge fund managers often invest money of their own in the fund they manage, which serves to align their own interests with those of the investors in the fund. A hedge fund typically pays its investment manager an annual management fee (for example 1% of the assets of the fund), and a performance fee (for example 20% of the increase in the fund's net asset value during the year). Some hedge funds have several billion dollars of assets under management (AUM). As of 2009, hedge funds represented 1.1% of the total funds and assets held by financial institutions. As of June 2013, the estimated size of the global hedge fund industry was US$2.4 trillion.

Etymology

The word "hedge", meaning a line of bushes around a field, has long been used as a metaphor for the placing of limits on risk. Early hedge funds sought to hedge specific investments against general market fluctuations by shorting the market, hence the name. Nowadays, however, many different investment strategies are used, many of which do not "hedge risk".

History

During the US bull market of the 1920s, there were numerous private investment vehicles available to wealthy investors. Of that period the best known today is the Graham-Newman Partnership, founded by Benjamin Graham and Jerry Newman, which was cited by Warren Buffett in a 2006 letter to the Museum of American Finance as an early hedge fund.

The sociologist Alfred W. Jones is credited with coining the phrase "*hedged* fund" and is credited with creating the first hedge fund structure in 1949, although this has been disputed. Jones referred to his fund as being "hedged", a term then commonly used on Wall Street to describe the management of investment risk due to changes in the financial markets.

In the 1970s, hedge funds specialized in a single strategy and most fund managers followed the long/short equity model. Many hedge funds closed during the recession of 1969–70 and the 1973–1974 stock market crash due to heavy losses. They received renewed attention in the late 1980s. During the 1990s, the number of hedge funds increased significantly, funded with wealth created during the 1990s stock market rise. The increased interest was due to the aligned-interest compensation structure (i.e. common financial interests) and the promise of above high returns. Over the next decade hedge fund strategies expanded to include: credit arbitrage, distressed debt, fixed income, quantitative, and multi-strategy. US institutional investors such as pension and endowment funds began allocating greater portions of their portfolios to hedge funds.

During the first decade of the 21st century hedge funds gained popularity worldwide, and by 2008 the worldwide hedge fund industry held US$1.93 trillion in assets under management (AUM).

However, the 2008 financial crisis caused many hedge funds to restrict investor withdrawals and their popularity and AUM totals declined. AUM totals rebounded and in April 2011 were estimated at almost $2 trillion. As of February 2011, 61% of worldwide investment in hedge funds comes from institutional sources. In June 2011, the hedge funds with the greatest AUM was Bridgewater Associates (US$58.9 billion), Man Group (US$39.2 billion), Paulson & Co. (US$35.1 billion), Brevan Howard (US$31 billion), and Och-Ziff (US$29.4 billion). Bridgewater Associates, had $70 billion under management as of 1 March 2012. At the end of that year, the 241 largest hedge fund firms in the United States collectively held $1.335 trillion. In April 2012, the hedge fund industry reached a record high of US$2.13 trillion total assets under management.

Top Hedge Funds Managers 2015

In June 2015 Forbes listed George Soros of Quantum Group of Funds, Ray Dalio of Bridgewater Associates - the world's largest hedge fund firm in 2015 with US$155 billion assets under management compared to US$122 billion under assets in 2011,Steven A. Cohen of Point72 Asset Management - formerly known as S.A.C. Capital Advisors, John Paulson of Paulson & Co. whose hedge funds as of December 2015 had $19 billion assets under management, compared to $18 billion in September 2013 and $36 billion in early 2011. David Tepper of Appaloosa Management, Paul Tudor Jones II of Tudor Investment Corporation, Daniel Och of Och-Ziff Capital Management Group with more than $40 billion in assets under management in 2013, Israel Englander of Millennium Management, Leon G. Cooperman of Omega Advisors, Michael Platt of BlueCrest Capital Management (UK) Europe's third-biggest hedge-fund firm, Stanley Druckenmiller, Daniel Loeb of Third Point LLC with a portfolio worth $14 billion., James Dinan of York Capital Management, Stephen Mandel Jr. of Lone Pine Capital with $26.7 billion under management at end June 2015, Larry Robbins of Glenview Capital Management with approximately $9.2 billion of assets under management as of July 2014, Glenn Dubin of Highbridge Capital Management, Paul Singer of Elliott Management Corporation, an activist hedge fund with more than US$23 billion in assets under management in 2013, and a portfolio worth $8,124,567,000 as of the first quarter of 2015, , Michael Hintze of CQS with $14.4 billion of assets under management as of June 2015, and David Einhorn of Greenlight Capital, as the top twenty billionaire hedge fund managers.

Strategies

Hedge fund strategies are generally classified among four major categories: global macro, directional, event-driven, and relative value (arbitrage). Strategies within these categories each entail characteristic risk and return profiles. A fund may employ a single strategy or multiple strategies for flexibility, for risk management, or for diversification. The hedge fund's prospectus, also known as an offering memorandum, offers potential investors information about key aspects of the fund, including the fund's investment strategy, investment type, and leverage limit.

The elements contributing to a hedge fund strategy include: the hedge fund's approach to the market; the particular instrument used; the market sector the fund specializes in (e.g. healthcare); the method used to select investments; and the amount of diversification within the fund. There are a variety of market approaches to different asset classes, including equity, fixed income, commodity, and currency. Instruments used include: equities, fixed income, futures, options and swaps. Strategies can be divided into those in which investments can be selected by managers, known as "dis-

cretionary/qualitative", or those in which investments are selected using a computerized system, known as "systematic/quantitative". The amount of diversification within the fund can vary; funds may be multi-strategy, multi-fund, multi-market, multi-manager or a combination.

Sometimes hedge fund strategies are described as absolute return and are classified as either market neutral or directional. Market neutral funds have less correlation to overall market performance by "neutralizing" the effect of market swings, whereas directional funds utilize trends and inconsistencies in the market and have greater exposure to the market's fluctuations.

Global Macro

Hedge funds using a global macro investing strategy take sizable positions in share, bond or currency markets in anticipation of global macroeconomic events in order to generate a risk-adjusted return. Global macro fund managers use macroeconomic ("big picture") analysis based on global market events and trends to identify opportunities for investment that would profit from anticipated price movements. While global macro strategies have a large amount of flexibility due to their ability to use leverage to take large positions in diverse investments in multiple markets, the timing of the implementation of the strategies is important in order to generate attractive, risk-adjusted returns. Global macro is often categorized as a directional investment strategy.

Global macro strategies can be divided into discretionary and systematic approaches. Discretionary trading is carried out by investment managers who identify and select investments; systematic trading is based on mathematical models and executed by software with limited human involvement beyond the programming and updating of the software. These strategies can also be divided into trend or counter-trend approaches depending on whether the fund attempts to profit from following trends (long or short-term) or attempts to anticipate and profit from reversals in trends.

Within global macro strategies, there are further sub-strategies including "systematic diversified", in which the fund trades in diversified markets, or "systematic currency", in which the fund trades in currency markets. Other sub-strategies include those employed by commodity trading advisors (CTAs), where the fund trades in futures (or options) in commodity markets or in swaps. This is also known as a managed future fund. CTAs trade in commodities (such as gold) and financial instruments, including stock indices. In addition they take both long and short positions, allowing them to make profit in both market upswings and downswings.

Directional

Directional investment strategies use market movements, trends, or inconsistencies when picking stocks across a variety of markets. Computer models can be used, or fund managers will identify and select investments. These types of strategies have a greater exposure to the fluctuations of the overall market than do market neutral strategies. Directional hedge fund strategies include US and international long/short equity hedge funds, where long equity positions are hedged with short sales of equities or equity index options.

Within directional strategies, there are a number of sub-strategies. "Emerging markets" funds fo-

cus on emerging markets such as China and India, whereas "sector funds" specialize in specific areas including technology, healthcare, biotechnology, pharmaceuticals, energy and basic materials. Funds using a "fundamental growth" strategy invest in companies with more earnings growth than the overall stock market or relevant sector, while funds using a "fundamental value" strategy invest in undervalued companies. Funds that use quantitative and Financial signal processing techniques for equity trading are described as using a "quantitative directional" strategy. Funds using a "short bias" strategy take advantage of declining equity prices using short positions.

Event-Driven

Event-driven strategies concern situations in which the underlying investment opportunity and risk are associated with an event. An event-driven investment strategy finds investment opportunities in corporate transactional events such as consolidations, acquisitions, recapitalizations, bankruptcies, and liquidations. Managers employing such a strategy capitalize on valuation inconsistencies in the market before or after such events, and take a position based on the predicted movement of the security or securities in question. Large institutional investors such as hedge funds are more likely to pursue event-driven investing strategies than traditional equity investors because they have the expertise and resources to analyze corporate transactional events for investment opportunities.

Corporate transactional events generally fit into three categories: distressed securities, risk arbitrage, and special situations. Distressed securities include such events as restructurings, recapitalizations, and bankruptcies. A distressed securities investment strategy involves investing in the bonds or loans of companies facing bankruptcy or severe financial distress, when these bonds or loans are being traded at a discount to their value. Hedge fund managers pursuing the distressed debt investment strategy aim to capitalize on depressed bond prices. Hedge funds purchasing distressed debt may prevent those companies from going bankrupt, as such an acquisition deters foreclosure by banks. While event-driven investing in general tends to thrive during a bull market, distressed investing works best during a bear market.

Risk arbitrage or merger arbitrage includes such events as mergers, acquisitions, liquidations, and hostile takeovers. Risk arbitrage typically involves buying and selling the stocks of two or more merging companies to take advantage of market discrepancies between acquisition price and stock price. The risk element arises from the possibility that the merger or acquisition will not go ahead as planned; hedge fund managers will use research and analysis to determine if the event will take place.

Special situations are events that impact the value of a company's stock, including the restructuring of a company or corporate transactions including spin-offs, share-buy-backs, security issuance/repurchase, asset sales, or other catalyst-oriented situations. To take advantage of special situations the hedge fund manager must identify an upcoming event that will increase or decrease the value of the company's equity and equity-related instruments.

Other event-driven strategies include: credit arbitrage strategies, which focus on corporate fixed income securities; an activist strategy, where the fund takes large positions in companies and uses the ownership to participate in the management; a strategy based on predicting the final approval of new pharmaceutical drugs; and legal catalyst strategy, which specializes in companies involved

in major lawsuits.

Relative Value

Relative value arbitrage strategies take advantage of relative discrepancies in price between securities. The price discrepancy can occur due to mispricing of securities compared to related securities, the underlying security or the market overall. Hedge fund managers can use various types of analysis to identify price discrepancies in securities, including mathematical, technical or fundamental techniques. Relative value is often used as a synonym for market neutral, as strategies in this category typically have very little or no directional market exposure to the market as a whole. Other relative value sub-strategies include:

- Fixed income arbitrage: exploit pricing inefficiencies between related fixed income securities.
- Equity market neutral: exploits differences in stock prices by being long and short in stocks within the same sector, industry, market capitalization, country, which also creates a hedge against broader market factors.
- Convertible arbitrage: exploit pricing inefficiencies between convertible securities and the corresponding stocks.
- Asset-backed securities (Fixed-Income asset-backed): fixed income arbitrage strategy using asset-backed securities.
- Credit long / short: the same as long / short equity but in credit markets instead of equity markets.
- Statistical arbitrage: identifying pricing inefficiencies between securities through mathematical modeling techniques
- Volatility arbitrage: exploit the change in implied volatility instead of the change in price.
- Yield alternatives: non-fixed income arbitrage strategies based on the yield instead of the price.
- Regulatory arbitrage: the practice of taking advantage of regulatory differences between two or more markets.
- Risk arbitrage: exploiting market discrepancies between acquisition price and stock price

Miscellaneous

In addition to those strategies within the four main categories, there are several strategies that do not fit into these categorizations or can apply across several of them.

- Fund of hedge funds (Multi-manager): a hedge fund with a diversified portfolio of numerous underlying single-manager hedge funds.
- Multi-strategy: a hedge fund using a combination of different strategies to reduce market risk.

- Minimum account fund: the minimum amount to open a hedge fund account is (say) 10 million dollars (with 25% non-holding) or 2.5 million dollars with holding.
- Multi-manager: a hedge fund wherein the investment is spread along separate sub-managers investing in their own strategy.
- Withdraw holding: a hold is placed on all major withdrawals for 90 days prior and after hedge fund is created and established.
- 130-30 funds: equity funds with 130% long and 30% short positions, leaving a net long position of 100%.
- Risk parity: equalizing risk by allocating funds to a wide range of categories while maximizing gains through financial leveraging.

Risk

Investment in hedge funds may provide diversification which can reduce the overall risk of an investor's portfolio. Managers of hedge funds use particular trading strategies and instruments with the specific aim of reducing market risks to produce risk-adjusted returns, which are consistent with investors' desired level of risk. Hedge funds ideally produce returns relatively uncorrelated with market indices. While "hedging" can be a way of reducing the risk of an investment, hedge funds, like all other investment types, are not immune to risk. According to a report by the Hennessee Group, hedge funds were approximately one-third less volatile than the S&P 500 between 1993 and 2010.

Risk Management

Investors in hedge funds are, in most countries, required to be qualified investors who are assumed to be aware of the investment risks, and accept these risks because of the potential returns relative to those risks. Fund managers may employ extensive risk management strategies in order to protect the fund and investors. According to the *Financial Times*, "big hedge funds have some of the most sophisticated and exacting risk management practices anywhere in asset management." Hedge fund managers may hold a large number of investment positions for short durations and are likely to have a particularly comprehensive risk management system in place. Funds may have "risk officers" who assess and manage risks but are not otherwise involved in trading, and may employ strategies such as formal portfolio risk models. A variety of measuring techniques and models may be used to calculate the risk incurred by a hedge fund's activities; fund managers may use different models depending on their fund's structure and investment strategy. Some factors, such as normality of return, are not always accounted for by conventional risk measurement methodologies. Funds which use value at risk as a measurement of risk may compensate for this by employing additional models such as drawdown and "time under water" to ensure all risks are captured.

In addition to assessing the market-related risks that may arise from an investment, investors commonly employ operational due diligence to assess the risk that error or fraud at a hedge fund might result in loss to the investor. Considerations will include the organization and management of operations at the hedge fund manager, whether the investment strategy is likely to be sustainable, and the fund's ability to develop as a company.

Transparency and Regulatory Considerations

Since hedge funds are private entities and have few public disclosure requirements, this is sometimes perceived as a lack of transparency. Another common perception of hedge funds is that their managers are not subject to as much regulatory oversight and/or registration requirements as other financial investment managers, and more prone to manager-specific idiosyncratic risks such as style drifts, faulty operations, or fraud. New regulations introduced in the US and the EU as of 2010 require hedge fund managers to report more information, leading to greater transparency. In addition, investors, particularly institutional investors, are encouraging further developments in hedge fund risk management, both through internal practices and external regulatory requirements. The increasing influence of institutional investors has led to greater transparency: hedge funds increasingly provide information to investors including valuation methodology, positions and leverage exposure.

Risks Shared with Other investment Types

Hedge funds share many of the same types of risk as other investment classes, including liquidity risk and manager risk. Liquidity refers to the degree to which an asset can be bought and sold or converted to cash; similar to private equity funds, hedge funds employ a lock-up period during which an investor cannot remove money. Manager risk refers to those risks which arise from the management of funds. As well as specific risks such as style drift, which refers to a fund manager "drifting" away from an area of specific expertise, manager risk factors include valuation risk, capacity risk, concentration risk and leverage risk. Valuation risk refers to the concern that the net asset value of investments may be inaccurate; capacity risk can arise from placing too much money into one particular strategy, which may lead to fund performance deterioration; and concentration risk may arise if a fund has too much exposure to a particular investment, sector, trading strategy, or group of correlated funds. These risks may be managed through defined controls over conflict of interest, restrictions on allocation of funds, and set exposure limits for strategies.

Many investment funds use leverage, the practice of borrowing money, trading on margin, or using derivatives to obtain market exposure in excess of that provided by investors' capital. Although leverage can increase potential returns, the opportunity for larger gains is weighed against the possibility of greater losses. Hedge funds employing leverage are likely to engage in extensive risk management practices. In comparison with investment banks, hedge fund leverage is relatively low; according to a National Bureau of Economic Research working paper, the average leverage for investment banks is 14.2, compared to between 1.5 and 2.5 for hedge funds.

Some types of funds, including hedge funds, are perceived as having a greater appetite for risk, with the intention of maximizing returns, subject to the risk tolerance of investors and the fund manager. Managers will have an additional incentive to increase risk oversight when their own capital is invested in the fund.

Fees and Remuneration

Fees Paid to Hedge Funds

Hedge fund management firms typically charge their funds both a management fee and a performance fee.

Management fees are calculated as a percentage of the fund's net asset value and typically range from 1% to 4% per annum, with 2% being standard. They are usually expressed as an annual percentage, but calculated and paid monthly or quarterly. Management fees for hedge funds are designed to cover the operating costs of the manager, whereas the performance fee provides the manager's profits. However, due to economies of scale the management fee from larger funds can generate a significant part of a manager's profits, and as a result some fees have been criticized by some public pension funds, such as CalPERS, for being too high.

The performance fee is typically 20% of the fund's profits during any year, though they range between 10% and 50%. Performance fees are intended to provide an incentive for a manager to generate profits. Performance fees have been criticized by Warren Buffett, who believes that because hedge funds share only the profits and not the losses, such fees create an incentive for high-risk investment management. Performance fee rates have fallen since the start of the credit crunch.

Almost all hedge fund performance fees include a "high water mark" (or "loss carryforward provision"), which means that the performance fee only applies to net profits (*i.e.,* profits after losses in previous years have been recovered). This prevents managers from receiving fees for volatile performance, though a manager will sometimes close a fund that has suffered serious losses and start a new fund, rather than attempting to recover the losses over a number of years without performance fee.

Some performance fees include a "hurdle", so that a fee is only paid on the fund's performance in excess of a benchmark rate (e.g. LIBOR) or a fixed percentage. A "soft" hurdle means the performance fee is calculated on all the fund's returns if the hurdle rate is cleared. A "hard" hurdle is calculated only on returns above the hurdle rate. A hurdle is intended to ensure that a manager is only rewarded if the fund generates returns in excess of the returns that the investor would have received if they had invested their money elsewhere.

Some hedge funds charge a redemption fee (or withdrawal fee) for early withdrawals during a specified period of time (typically a year) or when withdrawals exceed a predetermined percentage of the original investment. The purpose of the fee is to discourage short-term investing, reduce turnover and deter withdrawals after periods of poor performance. Unlike management fees and performance fees, redemption fees are usually kept by the fund.

Remuneration of Portfolio Managers

Hedge fund management firms are usually owned by their portfolio managers, who are therefore entitled to any profits that the business makes. As management fees are intended to cover the firm's operating costs, performance fees (and any excess management fees) are generally distributed to the firm's owners as profits. Many managers also have large stakes in their own funds.

Top hedge fund managers earn what has been termed "extraordinary" amounts of money, with the highest-grossing getting up to $4 billion per year. Earnings at the top are far higher than in any other sector of the financial industry. "They wouldn't even consider getting out of bed for the $13m (£8m) Goldman Sachs' boss Lloyd Blankfein was paid last year," writes Richard Anderson, a BBC Business reporter. Collectively, the top 25 hedge fund managers regularly earn more than all 500 of the chief executives in the S&P 500. Most hedge fund managers are remunerated much less,

however, and the competitiveness of the industry, along with the structure of financial incentives, means that failure can lead to not getting paid. The BBC quotes an industry insider who says "a lot of managers are not making any money at all."

In 2011, the top manager earned $3,000m, the tenth earned $210m and the 30th earned $80m. In 2011, the average earnings for the 25 highest compensated hedge fund managers in the United States was $576 million. According to *Absolute Return + Alpha*, in 2011 the mean total compensation for all hedge fund investment professionals was $690,786 and the median compensation was $312,329. The same figures for hedge fund CEOs were $1,037,151 and $600,000, and for chief investment officers were $1,039,974 and $300,000 respectively.

Of the 1,226 people on the *Forbes* World's Billionaires list for 2012, 36 of the financiers listed "derived significant chunks" of their wealth from hedge fund management. Among the richest 1,000 people in the United Kingdom, 54 were hedge fund managers, according to the *Sunday Times* Rich List for 2012. (Funds do not tend to report compensation. Published lists of the amounts earned by top managers use estimates based on factors such as the fees charged by their funds and the capital they are thought to have invested in them.)

Structure

A hedge fund is an investment vehicle that is most often structured as an offshore corporation, limited partnership or limited liability company. The fund is managed by an investment manager in the form of an organization or company that is legally and financially distinct from the hedge fund and its portfolio of assets. Many investment managers utilize service providers for operational support. Service providers include prime brokers, banks, administrators, distributors and accounting firms.

Prime brokers clear trades, and provide leverage and short-term financing. They are usually divisions of large investment banks. The prime broker acts as a counterparty to derivative contracts, and lends securities for particular investment strategies, such as long/short equities and convertible bond arbitrage. It can provide custodial services for the fund's assets, and execution and clearing services for the hedge fund manager.

Hedge fund administrators are responsible for operations, accounting, and valuation services. This back office support allows fund managers to concentrate on trades. Administrators also process subscriptions and redemptions, and perform various shareholder services. Hedge funds in the United States are not required to appoint an administrator, and all of these functions can be performed by an investment manager. A number of conflict of interest situations may arise in this arrangement, particularly in the calculation of a fund's net asset value (NAV). Some US funds voluntarily employ external auditors, thereby offering a greater degree of transparency.

A distributor is an underwriter, broker, dealer, or other person who participates in the distribution of securities. The distributor is also responsible for marketing the fund to potential investors. Many hedge funds do not have distributors, and in such cases the investment manager will be responsible for distribution of securities and marketing, though many funds also use placement agents and broker-dealers for distribution.

Most funds use an independent accounting firm to audit the assets of the fund, provide tax services and perform a complete audit of the fund's financial statements. The year-end audit is often

performed in accordance with either US generally accepted accounting principles (US GAAP) or international financial reporting standards (IFRS), depending on where the fund is established. The auditor may verify the fund's NAV and assets under management (AUM). Some auditors only provide "NAV lite" services, meaning that the valuation is based on prices received from the manager rather than independent assessment.

Domicile and Taxation

The legal structure of a specific hedge fund, in particular its domicile and the type of legal entity in use, is usually determined by the tax expectations of the fund's investors. Regulatory considerations will also play a role. Many hedge funds are established in offshore financial centers to avoid adverse tax consequences for its foreign and tax-exempt investors. Offshore funds that invest in the US typically pay withholding taxes on certain types of investment income but not US capital gains tax. However, the fund's investors are subject to tax in their own jurisdictions on any increase in the value of their investments. This tax treatment promotes cross-border investments by limiting the potential for multiple jurisdictions to layer taxes on investors.

US tax-exempt investors (such as pension plans and endowments) invest primarily in offshore hedge funds to preserve their tax exempt status and avoid unrelated business taxable income. The investment manager, usually based in a major financial center, pays tax on its management fees per the tax laws of the state and country where it is located. In 2011, half of the existing hedge funds were registered offshore and half onshore. The Cayman Islands was the leading location for offshore funds, accounting for 34% of the total number of global hedge funds. The US had 24%, Luxembourg 10%, Ireland 7%, the British Virgin Islands 6% and Bermuda had 3%.

Basket Options

"Deutsche Bank and Barclays created special options accounts for hedge fund clients in the banks' names and claimed to own the assets, when in fact the hedge fund clients had full control of the assets and reaped the profits. The hedge funds would then execute trades — many of them a few seconds in duration — but wait until just after a year had passed to exercise the options, allowing them to report the profits at a lower long-term capital gains tax rate."

— Alexandra Stevenson. July 8, 2015. New York Times

The Senate Permanent Subcommittee on Investigations chaired by Carl Levin resulted in a 2014 report that found that from 1998 and 2013, hedge funds avoided billions of dollars in taxes by using basket options. The Internal Revenue Service began investigating Renaissance Technologies in 2009 and Levin criticized the IRS for taking six years to investigate the company. Using basket options Renaissance avoided "more than $6 billion in taxes over more than a decade."

"These banks and hedge funds involved in this case used dubious structured financial products in a giant game of 'let's pretend,' costing the Treasury billions and bypassing safeguards that protect the economy from excessive bank lending for stock speculation."

— Carl Levin. 2015. Senate Permanent Subcommittee on Investigations

A dozen other hedge funds along with Renaissance Technologies used Deutsche Bank's and Barclays' basket options. Renaissance argued that basket options were "extremely important because they gave the hedge fund the ability to increase its returns by borrowing more and to protect against model and programming failures." In July 2015 the United States Internal Revenue claimed hedge funds used basket options "to bypass taxes on short-term trades." These basket options will now be labeled as listed transactions that must be declared on tax returns and a failure to do would result in a penalty.

Investment Manager Locations

In contrast to the funds themselves, investment managers are primarily located onshore. The United States remains the largest center of investment, with US-based funds managing around 70% of global assets at the end of 2011. As of April 2012, there were approximately 3,990 investment advisers managing one or more private hedge funds registered with the Securities and Exchange Commission. New York City and the Gold Coast area of Connecticut are the leading locations for US hedge fund managers.

London is Europe's leading center for hedge fund managers. According to EuroHedge data, around 800 funds located in the UK managed some 85% of European-based hedge fund assets in 2011. Interest in hedge funds in Asia has increased significantly since 2003, especially in Japan, Hong Kong, and Singapore. However, the UK and the US remain the leading locations for management of Asian hedge fund assets.

The Legal Entity

Hedge fund legal structures vary depending on location and the investor(s). US hedge funds aimed at US-based, taxable investors are generally structured as limited partnerships or limited liability companies. Limited partnerships and other flow-through taxation structures assure that investors in hedge funds are not subject to both entity-level and personal-level taxation. A hedge fund structured as a limited partnership must have a general partner. The general partner may be an individual or a corporation. The general partner serves as the manager of the limited partnership, and has unlimited liability. The limited partners serve as the fund's investors, and have no responsibility for management or investment decisions. Their liability is limited to the amount of money they invest for partnership interests. As an alternative to a limited partnership arrangement, U.S. domestic hedge funds may be structured as limited liability companies, with members acting as corporate shareholders and enjoying protection from individual liability.

By contrast, offshore corporate funds are usually used for non-US investors, and when they are domiciled in an applicable offshore tax haven, no entity-level tax is imposed. Many managers of offshore funds permit the participation of tax-exempt US investors, such as pensions funds, institutional endowments and charitable trusts. As an alternative legal structure, offshore funds may be formed as an open-ended unit trust using an unincorporated mutual fund structure. Japanese investors prefer to invest in unit trusts, such as those available in the Cayman Islands.

The investment manager who organizes the hedge fund may retain an interest in the fund, either as the general partner of a limited partnership or as the holder of "founder shares" in a corporate fund. For offshore funds structured as corporate entities, the fund may appoint a board of direc-

tors. The board's primary role is to provide a layer of oversight while representing the interests of the shareholders. However, in practice board members may lack sufficient expertise to be effective in performing those duties. The board may include both affiliated directors who are employees of the fund and independent directors whose relationship to the fund is limited.

Types of Funds

- Open-ended hedge funds continue to issue shares to new investors and allow periodic withdrawals at the net asset value ("NAV") for each share.
- Closed-ended hedge funds issue a limited number of tradeable shares at inception.
- Shares of Listed hedges funds are traded on stock exchanges, such as the Irish Stock Exchange, and may be purchased by non-accredited investors.

Side Pockets

A side pocket is a mechanism whereby a fund compartmentalizes assets that are relatively illiquid or difficult to value reliably. When an investment is side-pocketed, its value is calculated separately from the value of the fund's main portfolio. Because side pockets are used to hold illiquid investments, investors do not have the standard redemption rights with respect to the side pocket investment that they do with respect to the fund's main portfolio. Profits or losses from the investment are allocated on a *pro rata* basis only to those who are investors at the time the investment is placed into the side pocket and are not shared with new investors. Funds typically carry side pocket assets "at cost" for purposes of calculating management fees and reporting net asset values. This allows fund managers to avoid attempting a valuation of the underlying investments, which may not always have a readily available market value.

Side pockets were widely used by hedge funds during the 2008 financial crisis amidst a flood of withdrawal requests. Side pockets allowed fund managers to lay away illiquid securities until market liquidity improved, a move that reduced losses. Despite these benefits, some investors complained that the practice was abused and not always transparent. The SEC also has expressed concern about aggressive use of side pockets and has sanctioned certain fund managers for inappropriate use of them.

Regulation

Hedge funds must conform to the national, federal and state regulatory laws in their respective locations. The U.S. regulations and restrictions that apply to hedge funds differ from its mutual funds. Mutual funds, unlike hedge funds and other private funds, are subject to the Investment Company Act of 1940, which is a highly detailed and extensive regulatory regime. According to a report by the International Organization of Securities Commissions the most common form of regulation pertains to restrictions on financial advisers and hedge fund managers in an effort to minimize client fraud. On the other hand, U.S. hedge funds are exempt from many of the standard registration and reporting requirements because they only accept accredited investors. In 2010, regulations were enacted in the US and European Union, which introduced additional hedge fund reporting requirements. These included the U.S.'s Dodd-Frank Wall Street Reform Act and European Alternative Investment Fund Managers Directive.

United States

Hedge funds within the US are subject to regulatory, reporting and record keeping requirements. Many hedge funds also fall under the jurisdiction of the Commodity Futures Trading Commission and are subject to rules and provisions of the 1922 Commodity Exchange Act which prohibits fraud and manipulation. The Securities Act of 1933 required companies to file a registration statement with the SEC to comply with its private placement rules before offering their securities to the public. The Securities Exchange Act of 1934 required a fund with more than 499 investors to register with the SEC. The Investment Advisers Act of 1940 contained anti-fraud provisions that regulated hedge fund managers and advisers, created limits for the number and types of investors, and prohibited public offerings. The Act also exempted hedge funds from mandatory registration with the U.S. Securities and Exchange Commission (SEC) when selling to accredited investors with a minimum of US$5 million in investment assets. Companies and institutional investors with at least US$25 million in investment assets also qualified.

In December 2004, the SEC began requiring hedge fund advisers, managing more than US$25 million and with more than 14 investors, to register with the SEC under the Investment Advisers Act. The SEC stated that it was adopting a "risk-based approach" to monitoring hedge funds as part of its evolving regulatory regimen for the burgeoning industry. The new rule was controversial, with two commissioners dissenting, and was later challenged in court by a hedge fund manager. In June 2006, the U.S. Court of Appeals for the District of Columbia overturned the rule and sent it back to the agency to be reviewed. In response to the court decision, in 2007 the SEC adopted Rule 206(4)-8, which unlike the earlier challenged rule, "does not impose additional filing, reporting or disclosure obligations" but does potentially increase "the risk of enforcement action" for negligent or fraudulent activity. Hedge fund managers with at least US$100 million in assets under management are required to file publicly quarterly reports disclosing ownership of registered equity securities and are subject to public disclosure if they own more than 5% of the class of any registered equity security. Registered advisers must report their business practices and disciplinary history to the SEC and to their investors. They are required to have written compliance policies, a chief compliance officer and their records and practices may be examined by the SEC.

The U.S.'s Dodd-Frank Wall Street Reform Act was passed in July 2010 and requires SEC registration of advisers who manage private funds with more than US$150 million in assets. Registered managers must file Form ADV with the SEC, as well as information regarding their assets under management and trading positions. Previously, advisers with fewer than 15 clients were exempt, although many hedge fund advisers voluntarily registered with the SEC to satisfy institutional investors. Under Dodd-Frank, investment advisers with less than US$100 million in assets under management became subject to state regulation. This increased the number of hedge funds under state supervision. Overseas advisers who managed more than US$25 million were also required to register with the SEC. The Act requires hedge funds to provide information about their trades and portfolios to regulators including the newly created Financial Stability Oversight Council. In this regard, most hedge funds and other private funds, including private equity funds, must file Form PF with the SEC, which is an extensive reporting form with substantial data on the funds' activities and positions. Under the "Volcker Rule," regulators are also required to implement regulations for banks, their affiliates, and holding companies to limit their relationships with hedge funds and to

prohibit these organizations from proprietary trading, and to limit their investment in, and sponsorship of, hedge funds.

Europe

Within the European Union (EU), hedge funds are primarily regulated through their managers. In the United Kingdom, where 80% of Europe's hedge funds are based, hedge fund managers are required to be authorised and regulated by the Financial Conduct Authority (FCA). Each country has their own specific restrictions on hedge fund activities, including controls on use of derivatives in Portugal, and limits on leverage in France.

In the EU, managers are subject to the EU's Directive on Alternative Investment Fund Managers (AIFMD). According to the EU, the aim of the directive is to provide greater monitoring and control of alternative investment funds. AIFMD requires all EU hedge fund managers to register with national regulatory authorities and to disclose more information, on a more frequent basis. It also directs hedge fund managers to hold larger amounts of capital. AIFMD also introduced a "passport" for hedge funds authorised in one EU country to operate throughout the EU. The scope of AIFMD is broad and encompasses managers located within the EU as well as non-EU managers that market their funds to European investors. An aspect of AIFMD which challenges established practices in the hedge funds sector is the potential restriction of remuneration through bonus deferrals and clawback provisions.

Other

Some hedge funds are established in Offshore centers such as the Cayman Islands, Dublin, Luxembourg, the British Virgin Islands, and Bermuda which have different regulations concerning non-accredited investors, client confidentiality and fund manager independence.

In South Africa, investment fund managers must be approved by, and register with, the Financial Services Board (FSB).

Performance

Measurement

Performance statistics for individual hedge funds are difficult to obtain, as the funds have historically not been required to report their performance to a central repository and restrictions against public offerings and advertisement have led many managers to refuse to provide performance information publicly. However, summaries of individual hedge fund performance are occasionally available in industry journals and databases. and investment consultancy Hennessee Group.

One estimate is that the average hedge fund returned 11.4% per year, representing a 6.7% return above overall market performance before fees, based on performance data from 8,400 hedge funds. Another is that between January 2000 and December 2009 the hedge funds outperformed other investments were significantly less volatile, with stocks falling 2.62% per year over the decade and hedge funds rising 6.54%.

Hedge funds performance is measured by comparing their returns to an estimate of their risk. Common measures are the Sharpe ratio., Treynor measure and Jensen's alpha. These measures work best when returns follow normal distributions without autocorrelation, and these assumptions are often not met in practice.

New performance measures have been introduced that attempt to address some of theoretical concerns with traditional indicators, including: modified Sharpe ratios; the Omega ratio introduced by Keating and Shadwick in 2002; Alternative Investments Risk Adjusted Performance (AIRAP) published by Sharma in 2004; and Kappa developed by Kaplan and Knowles in 2004.

Sector-Size Effect

There is a debate over whether alpha (the manager's skill element in performance) has been diluted by the expansion of the hedge fund industry. Two reasons are given. First, the increase in traded volume may have been reducing the market anomalies that are a source of hedge fund performance. Second, the remuneration model is attracting more managers, which may dilute the talent available in the industry.

Hedge Fund Indices

Indices that track hedge fund returns are, in order of development, called Non-investable, Investable and Clone.

Indices play a central and unambiguous role in traditional asset markets, where they are widely accepted as representative of their underlying portfolios. Equity and debt index fund products provide investable access to most developed markets in these asset classes. Hedge funds, however, are actively managed, so that tracking is impossible. Non-investable hedge fund indices on the other hand may be more or less representative, but returns data on many of the reference group of funds is non-public. This may result in biased estimates of their returns. In an attempt to address this problem, clone indices have been created in an attempt to replicate the statistical properties of hedge funds without being directly based on their returns data. None of these approaches achieves the accuracy of indices in other asset classes for which there is more complete published data concerning the underlying returns.

Non-Investable Indices

Non-investable indices are indicative in nature, and aim to represent the performance of some database of hedge funds using some measure such as mean, median or weighted mean from a hedge fund database. The databases have diverse selection criteria and methods of construction, and no single database captures all funds. This leads to significant differences in reported performance between different indices.

Although they aim to be representative, non-investable indices suffer from a lengthy and largely unavoidable list of biases.

Funds' participation in a database is voluntary, leading to self-selection bias because those funds that choose to report may not be typical of funds as a whole. For example, some do not report because of poor results or because they have already reached their target size and do not wish to raise further money.

The short lifetimes of many hedge funds means that there are many new entrants and many departures each year, which raises the problem of survivorship bias. If we examine only funds that have survived to the present, we will overestimate past returns because many of the worst-performing funds have not survived, and the observed association between fund youth and fund performance suggests that this bias may be substantial.

When a fund is added to a database for the first time, all or part of its historical data is recorded ex-post in the database. It is likely that funds only publish their results when they are favorable, so that the average performances displayed by the funds during their incubation period are inflated. This is known as "instant history bias" or "backfill bias".

Investable Indices

Investable indices are an attempt to reduce these problems by ensuring that the return of the index is available to shareholders. To create an investable index, the index provider selects funds and develops structured products or derivative instruments that deliver the performance of the index. When investors buy these products the index provider makes the investments in the underlying funds, making an investable index similar in some ways to a fund of hedge funds portfolio.

To make the index investable, hedge funds must agree to accept investments on the terms given by the constructor. To make the index liquid, these terms must include provisions for redemptions that some managers may consider too onerous to be acceptable. This means that investable indices do not represent the total universe of hedge funds. Most seriously, they under-represent more successful managers, who typically refuse to accept such investment protocols.

Hedge Fund Replication

The most recent addition to the field approach the problem in a different manner. Instead of reflecting the performance of actual hedge funds they take a statistical approach to the analysis of historic hedge fund returns, and use this to construct a model of how hedge fund returns respond to the movements of various investable financial assets. This model is then used to construct an investable portfolio of those assets. This makes the index investable, and in principle they can be as representative as the hedge fund database from which they were constructed.

However, these clone indices rely on a statistical modelling process. Such indices have too short a history to state whether this approach will be considered successful.

Debates and Controversies

Systemic Risk

Systemic risk refers to the risk of instability across the entire financial system, as opposed to within a single company. Such risk may arise following a destabilizing event or events affecting a group of financial institutions linked through investment activity. Organizations such as the National Bureau of Economic Research and the European Central Bank have charged that hedge funds pose systemic risks to the financial sector, and following the failure of hedge fund Long-Term Capital Management (LTCM) in 1998 there was widespread concern about the potential for systemic risk

if a hedge fund failure led to the failure of its counterparties. (As it happens, no financial assistance was provided to LTCM by the US Federal Reserve, so there was no direct cost to US taxpayers, but a large bailout had to be mounted by a number of financial institutions.)

However, these claims are widely disputed by the financial industry, who typically regard hedge funds as "small enough to fail", since most are relatively small in terms of the assets they manage and operate with low leverage, thereby limiting the potential harm to the economic system should one of them fail. Formal analysis of hedge fund leverage before and during the 2008 financial crisis suggests that hedge fund leverage is both fairly modest and counter-cyclical to the market leverage of investment banks and the larger financial sector. Hedge fund leverage decreased prior to the financial crisis, even while the leverage of other financial intermediaries continued to increase. Hedge funds fail regularly, and numerous hedge funds failed during the financial crisis. In testimony to the House Financial Services Committee in 2009, Ben Bernanke, the Federal Reserve Board Chairman said he "would not think that any hedge fund or private equity fund would become a systemically critical firm individually".

Nevertheless, although hedge funds go to great lengths to reduce the ratio of risk to reward, inevitably a number of risks remain. Systemic risk is increased in a crisis if there is "herd" behaviour, which causes a number of similar hedge funds to make losses in similar trades. In addition, while most hedge funds make only modest use of leverage, hedge funds differ from many other market participants, such as banks and mutual funds, in that there are no regulatory constraints on their use of leverage, and some hedge funds seek large amounts of leverage as part of their market strategy. The extensive use of leverage can lead to forced liquidations in a crisis, particularly for hedge funds that invest at least in part in illiquid investments. The close interconnectedness of the hedge funds with their prime brokers, typically investment banks, can lead to domino effects in a crisis, and indeed failing counterparty banks can freeze hedge funds. These systemic risk concerns are exacerbated by the prominent role of hedge funds in the financial markets. The global hedge fund industry has over $2 trillion in assets, and this does not take into account the full effect of leverage, which by definition is market exposure in excess of the amount invested.

An August 2012 survey by the Financial Services Authority concluded that risks were limited and had reduced as a result, *inter alia*, of larger margins being required by counterparty banks, but might change rapidly according to market conditions. In stressed market conditions, investors might suddenly withdraw large sums, resulting in forced asset sales. This might cause liquidity and pricing problems if it occurred across a number of funds or in one large highly leveraged fund.

Transparency

Hedge funds are structured to avoid most direct regulation (although their managers may be regulated) and are not required to publicly disclose their investment activities, except to the extent that investors generally are subject to disclosure requirements. This is in contrast to a regulated mutual fund or exchange-traded fund, which will typically have to meet regulatory requirements for disclosure. An investor in a hedge fund usually has direct access to the investment adviser of the fund, and may enjoy more personalized reporting than investors in retail investment funds. This may include detailed discussions of risks assumed and significant positions. However, this high level of disclosure is not available to non-investors, contributing to hedge funds' reputation for secrecy, while some hedge funds have very limited transparency even to investors.

Funds may choose to report some information in the interest of recruiting additional investors. Much of the data available in consolidated databases is self-reported and unverified. A study was done on two major databases containing hedge fund data. The study noted that 465 common funds had significant differences in reported information (e.g. returns, inception date, net assets value, incentive fee, management fee, investment styles, etc.) and that 5% of return numbers and 5% of NAV numbers were dramatically different. With these limitations, investors have to do their own research, which may cost on the scale of US$50,000 for a fund that is not well-established.

A lack of verification of financial documents by investors or by independent auditors has, in some cases, assisted in fraud. In the mid-2000s, Kirk Wright of International Management Associates was accused of mail fraud and other securities violations which allegedly defrauded clients of close to US$180 million. In December 2008, Bernard Madoff was arrested for running a US$50 billion Ponzi scheme which was incorrectly described as a hedge fund, and several feeder hedge funds, of which the largest was Fairfield Sentry, channeled money to it. Following the Madoff case, the SEC adopted reforms in December 2009 that required hedge funds managed by registered investment advisers to have their assets in the custody of a qualified custodian and subjected them to an audit requirement.

The process of matching hedge funds to investors has traditionally been fairly opaque, with investments often driven by personal connections or recommendations of portfolio managers. Many funds disclose their holdings, strategy, and historic performance relative to market indices, giving investors some idea of how their money is being allocated, although individual holdings are not always disclosed. Investors are often drawn to hedge funds by the possibility of realizing significant returns, or hedging against volatility in the market. The complexity and fees associated with hedge funds are causing some to exit the market – Calpers, the largest pension fund in the US, announced plans to completely divest from hedge funds in 2014. Some services are attempting to improve matching between hedge funds and investors: HedgeZ is designed to allow investors to easily search and sort through funds; iMatchative aims to match investors to funds through algorithms that factor in an investor's goals and behavioral profile, in hopes of helping funds and investors understand the how their perceptions and motivations drive investment decisions.

Links with Analysts

In June 2006, prompted by a letter from Gary J. Aguirre, the Senate Judiciary Committee began an investigation into the links between hedge funds and independent analysts. Aguirre was fired from his job with the SEC when, as lead investigator of insider trading allegations against Pequot Capital Management, he tried to interview John Mack, then being considered for chief executive officer at Morgan Stanley. The Judiciary Committee and the US Senate Finance Committee issued a scathing report in 2007, which found that Aguirre had been illegally fired in reprisal for his pursuit of Mack and in 2009, the SEC was forced to re-open its case against Pequot. Pequot settled with the SEC for US$28 million and Arthur J. Samberg, chief investment officer of Pequot, was barred from working as an investment advisor. Pequot closed its doors under the pressure of investigations.

The systemic practice of hedge funds submitting periodic electronic questionnaires to stock analysts as a part of market research was reported in by *The New York Times* in July 2012. According to the report, one motivation for the questionnaires was to obtain subjective information not avail-

able to the public and possible early notice of trading recommendations that could produce short term market movements.

Value in Mean/Variance Efficient Portfolios

According to modern portfolio theory, rational investors will seek to hold portfolios that are mean/variance efficient (that is, portfolios that offer the highest level of return per unit of risk). One of the attractive features of hedge funds (in particular market neutral and similar funds) is that they sometimes have a modest correlation with traditional assets such as equities. This means that hedge funds have a potentially quite valuable role in investment portfolios as diversifiers, reducing overall portfolio risk.

However, there are three reasons why one might not wish to allocate a high proportion of assets into hedge funds. These reasons are:

- Hedge funds are highly individual and it is hard to estimate the likely returns or risks.
- Hedge funds' low correlation with other assets tends to dissipate during stressful market events, making them much less useful for diversification than they may appear.
- Hedge fund returns are reduced considerably by the high fee structures that are typically charged.

Several studies have suggested that hedge funds are sufficiently diversifying to merit inclusion in investor portfolios, but this is disputed for example by Mark Kritzman who performed a mean-variance optimization calculation on an opportunity set that consisted of a stock index fund, a bond index fund, and ten hypothetical hedge funds. The optimizer found that a mean-variance efficient portfolio did not contain any allocation to hedge funds, largely because of the impact of performance fees. To demonstrate this, Kritzman repeated the optimization using an assumption that the hedge funds incurred no performance fees. The result from this second optimization was an allocation of 74% to hedge funds.

The other factor reducing the attractiveness of hedge funds in a diversified portfolio is that they tend to under-perform during equity bear markets, just when an investor needs part of their portfolio to add value. For example, in January–September 2008, the Credit Suisse/Tremont Hedge Fund Index was down 9.87%. According to the same index series, even "dedicated short bias" funds had a return of –6.08% during September 2008. In other words, even though low average correlations may appear to make hedge funds attractive this may not work in turbulent period, for example around the collapse of Lehman Brothers in September 2008.

SME Finance

SME finance is the funding of small and medium-sized enterprises, and represents a major function of the general business finance market – in which capital for different types of firms are supplied, acquired, and costed or priced. Capital is supplied through the business finance market in the form of bank loans and overdrafts; leasing and hire-purchase arrangements; equity/corporate

bond issues; venture capital or private equity; and asset-based finance such as factoring and invoice discounting.

However, not all business finance is external/commercially supplied through the market. Much finance is internally generated by businesses out of their own earnings and/or supplied informally as trade credit, that is, delays in paying for purchases of goods and services.

Importance

The economic and banking importance of the small and medium enterprise (SME) sector is well recognized in academic and policy literature. It is also acknowledged that these actors in the economy may be under-served, especially in terms of finance. This has led to significant debate on the best methods to serve this sector.

Although there have been numerous schemes and programmes in different economic environments, there are a number of distinctive recurring approaches to SME finance.

- Collateral based lending offered by traditional banks and finance companies is usually made up of a combination of asset-based finance, contribution based finance, and factoring based finance, using reliable debtors or contracts.
- Information based lending usually incorporates financial statement lending, credit scoring, and relationship lending.
- Viability based financing is especially associated with venture capital.
- Reliable for all the small ticket loan.

Gap

A substantial portion of the SME sector may not have the security required for conventional collateral based bank lending, nor high enough returns to attract formal venture capitalists and other risk investors. In addition, markets may be characterized by deficient information (limiting the effectiveness of financial statement-based lending and credit scoring). This has led to claims of an "SME finance gap" or Nano gap – particularly in emerging economies. At a workshop hosted by The Network for Governance, Entrepreneurship & Development (GE&D) in Geneva in July 2008, SMEs that fall into this category have been defined as Small Growing Businesses (SGBs).

There have been at least two distinctive approaches to try to overcome the so-called SME finance gap.

The first has been to broaden the collateral based approach by encouraging bank lenders to finance SMEs with insufficient collateral. This might be done through an external party providing the collateral or guarantees required. Unfortunately, such schemes are counter to basic free market principles, and they tend to be unsustainable. This sector is increasingly called the Meso-finance sector.

However, there are no evidence of any significant structural barriers to the supply of bank or private equity finance to suitable SME applicants on mutually satisfactory terms and conditions in Britain. The main obstacles to funding here appear to be on the demand rather than the supply side of the business finance market. This is mainly in the form of:

- Lack of satisfactory business plans, accounting and other information;
- Inadequate assets for use as security; and,
- Insufficiently high levels of profitability, gearing, liquidity, stability, and other business-financial performance criteria on the part of funding applicants.

Thus, the second approach has been to broaden the viability based approach. Since the viability based approach is concerned with the business itself, the aim has been to provide better general business development assistance to reduce risk and increase returns. This often entails a detailed review and assistance with the business plan.

A common aim or feature of the viability based approach is the provision of appropriate finance that is tailored to the cash flows of the SME.

Although the returns generated by this approach in less developed countries may not be attractive to venture capitalists, they can be significantly better than conventional collateral based lending – whilst at the same time being less risky than the typical venture capitalist business. Thus, a new, distinct asset class, offering a new avenue for diversification, is available to investors. With higher profitability than traditional SME finance and lower risk than traditional venture capital, this sector has been named the "growth finance sector".

In the past, a significant obstacle to applying this approach in less developed countries has been getting the information required to assess viability, plus the costs of transferring and providing business development assistance. However, in the last several years, improved information and communications technology have made the process easier and cheaper. As technology and information sharing continue to improve, the approach could become significantly more cost-effective and attractive to established financiers with viability based approaches, and to consultants providing business development assistance to SMEs in other, more mainstream areas.

Some investors have promoted this approach as a means of achieving wider social benefits, while others have been interested in developing it largely in order to generate better financial-economic returns for shareholders, investors, employees, and clients.

A new organisation, Aspen Network for Development Entrepreneurs (ANDE), has been created to bring the growth finance stakeholders together, with the view to evolve into an association serving the sector, similar to what venture capital or microfinance associations do. They have declared their target audience to be Small Growing Businesses.

In 2008, a group of financial service providers and other stakeholders came together to form the Finance Alliance for Sustainable Trade (FAST). FAST is an association of financial service providers explicitly committed to improving access to finance for sustainable SMEs—defined as SMEs that are compliant with one or more of a host of growing sustainability standards (such as organics, fair trade, forest stewardship council etc.). FAST states that one of its objectives is to improve access to finance for SMEs by linking sustainable trading relationships with sustainable production practices—both of which have been observed to reduce the risk profile of SMEs in traditionally high risk sectors.

The Management of Business Lending

The effective management of lending to SMEs can contribute significantly to the overall growth and profitability of banks. There has been considerable research and analysis into the methods by which banks assess and monitor business loans, manage business financing risks, and price their products – and how these methods might be further developed and improved.

There has been particularly intensive scrutiny of the kinds of business financial information that banks use in making lending decisions, and how reliable that information actually is.

Banks have traditionally relied on a combination of documentary sources of information, interviews and visits, and the personal knowledge and expertise of managers in assessing and monitoring business loans. However, when assessing comparatively small and straightforward business credit applications, banks may largely rely on standardized credit scoring techniques (quantifying such things as the characteristics, assets, and cash flows of businesses/owners). Using such techniques – and also centralizing or rationalizing business-banking operations generally – can significantly reduce processing costs. Standardized computer-based assessment may also be more accurate and fairer than reliance on the personal judgments of local bank managers. As a result, banks may now be able to offer more loans, faster and in larger amounts, and reduce previously high security requirements.

However, business lending as a whole is substantially more diverse and complex than personal and residential mortgage lending. This, coupled with the large size and inherently risky nature of many business loans, tend to limit the scope and desirability of computerized credit scoring in assessment and monitoring.

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7

Predictors of Success in Entrepreneurship

There are some key elements of success in an entrepreneurship. This chapter incorporates elements such as competitive advantage, business plan, strategic planning, cash flow and some others. Competitive advantage is a concept in business which attributes to the allowing of organizations to outperform its competitors. For a successful entrepreneur, all these strategies play a key role in the progress of their business.

Competitive Advantage

Competitive advantage is a business concept describing attributes that allow an organization to outperform its competitors. These attributes may include access to natural resources,such as high grade ores or inexpensive power, highly skilled personnel, geographic location, high entry barriers, etc. New technologies, such as robotics and information technology, can also provide competitive advantage, whether as a part of the product itself, as an advantage to the making of the product, or as a competitive aid in the business process (for example, better identification and understanding of customers) and the country's economy.

Overview

Competitive advantage is a property that a business can have over its competitors. This can be gained by offering clients better and greater value. Advertising products or services with lower prices or higher quality interests consumers. Target markets recognise these unique products or services. This is the reason behind brand loyalty, why customers prefer that particular product or service.

Value proposition is important when understanding competitive advantage. If the value proposition is affective it can produce a competitive advantage in either the product or service. The value proposition can increase customer expectations and choices.

Michael Porter defined the two types of competitive advantage an organization can achieve relative to its rivals: lower cost or differentiation. This advantage derives from attribute(s) that allow an organization to outperform its competition, such as superior market position, skills, or resources. In Porter's view, strategic management should be concerned with building and sustaining competitive advantage.

Competitive advantage seeks to address some of the criticisms of comparative advantage. Porter proposed the theory in 1985. Porter emphasizes productivity growth as the focus of national strategies. Competitive advantage rests on the notion that cheap labor is ubiquitous and natural resources are not necessary for a good economy. The other theory, comparative advantage, can lead countries to specialize in exporting primary goods and raw materials that trap countries in

low-wage economies due to terms of trade. Competitive advantage attempts to correct for this issue by stressing maximizing scale economies in goods and services that garner premium prices (Stutz and Warf 2009).

The term competitive advantage refers to the ability gained through attributes and resources to perform at a higher level than others in the same industry or market (Christensen and Fahey 1984, Kay 1994, Porter 1980 cited by Chacarbaghi and Lynch 1999, p. 45). The study of such advantage has attracted profound research interest due to contemporary issues regarding superior performance levels of firms in the present competitive market conditions. "A firm is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential player" (Barney 1991 cited by Clulow et al.2003, p. 221).

Successfully implemented strategies will lift a firm to superior performance by facilitating the firm with competitive advantage to outperform current or potential players (Passemard and Calantone 2000, p. 18). To gain competitive advantage, a business strategy of a firm manipulates the various resources over which it has direct control and these resources have the ability to generate competitive advantage (Reed and Fillippi 1990 cited by Rijamampianina 2003, p. 362). Superior performance outcomes and superiority in production resources reflects competitive advantage (Day and Wesley 1988 cited by Lau 2002, p. 125).

Above writings signify competitive advantage as the ability to stay ahead of present or potential competition. Also, it provides the understanding that resources held by a firm and the business strategy will have a profound impact on generating competitive advantage. Powell (2001, p. 132) views business strategy as the tool that manipulates the resources and create competitive advantage, hence, viable business strategy may not be adequate unless it possess control over unique resources that has the ability to create such a unique advantage.

Generic Competitive Strategies

Michael Porter a graduate from Harvard University created a book in 1985, which identified three strategies that can be used to tackle competition. This booked was named this ninth most influential management books on the 20th century. These approaches can be applied to all businesses whether it's a good or a service. He called these approaches generic strategies; they include cost leadership, differentiation and focus. These strategies have been created to improve and gain competitive advantage over competitors. These strategies can also be recognized as the comparative advantage and the differential advantage.

Cost Leadership Strategy

Cost leadership is a business ability to produce a product or service that will be at a lower cost than other competitors. If the business is able to produce the same quality product but sell it for less this gives them a competitive advantage over other businesses. Therefore, this provides a price value to the customers. Lower costs will result in higher profits as businesses are still making a reasonable product on each good or service sold. If businesses are not making a large enough profit, Porter recommends finding a low-cost base such as labor, materials and facilities. This gives businesses a lower manufacturing cost over those of other competitors. The company can add value to the customer via transfer the cost benefit to them.

Differential Strategy

A differential advantage is when a businesses products or services are different to similar competitors. According to Michael Porters strategies 1985, he recommends making those good or services attractive and stand out from other competitors. The business will need strong research, development and design thinking to create innovative new ideas. These improvements to the good or service could include delivering high quality to customers. If customers see this product or service different from other products consumers are willing to pay more to receive these benefits.

Along

Focus Strategy

Focus strategy ideally tries to get businesses to aim at a few target markets rather than trying to target everyone. This strategy is often used for smaller businesses, as they may not have the appropriate resources and ability to do so. Businesses that use this method usually focus on the needs of the customer and how the products or services could improve their daily lives. With this some firms may let consumers have input into their product or service.

This method can also be called the segmentation strategy, which includes geographic, demographic, behavioral and physical segmentations. By narrowing the market down to smaller segmentations, businesses are able to meet these needs of the consumer. Porter believes that once businesses have decided what groups they will target its essential to decide if they will take the cost leadership approach or differentiation approach. Focus strategy will not make a business successful. Porter mentions that it is important to not use all 3 generic strategies, because there's a high chance companies will come out achieving no strategies instead of achieving success. This can be called 'stuck in the middle' and the business won't be able to achieve a competitive advantage.

When businesses can find the perfect balance between the two 'price and quality' it usually leads to a successful product or service. A product or service must offer value through price or quality to ensure the business is successful in the market. To succeed, it's not enough to be 'just as good as' another business. It comes to firms that can deliver a product or service in a manner that is more meaningful and different to customers based on their needs and desires. Deciding on the appropriate price and quality will depend along the business brand image and what they hope to achieve relating to their competition.

Business Plan

A business plan is a formal statement of business goals, reasons they are attainable, and plans for reaching them. It may also contain background information about the organization or team attempting to reach those goals.

Business plans may target changes in perception and branding by the customer, client, taxpayer, or larger community. When the existing business is to assume a major change or when planning a new venture, a 3 to 5 year business plan is required, since investors will look for their investment return in that timeframe.

Audience

Business plans may be internally or externally focused. Externally focused plans target goals that are important to external stakeholders, particularly financial stakeholders. They typically have detailed information about the organization or team attempting to reach the goals. With for-profit entities, external stakeholders include investors and customers. External stake-holders of non-profits include donors and the clients of the non-profit's services. For government agencies, external stakeholders include tax-payers, higher-level government agencies, and international lending bodies such as the International Monetary Fund, the World Bank, various economic agencies of the United Nations, and development banks.

Internally focused business plans target intermediate goals required to reach the external goals. They may cover the development of a new product, a new service, a new IT system, a restructuring of finance, the refurbishing of a factory or a restructuring of the organization. An internal business plan is often developed in conjunction with a balanced scorecard or a list of critical success factors. This allows success of the plan to be measured using non-financial measures. Business plans that identify and target internal goals, but provide only general guidance on how they will be met are called strategic plans.

Operational plans describe the goals of an internal organization, working group or department. Project plans, sometimes known as project frameworks, describe the goals of a particular project. They may also address the project's place within the organization's larger strategic goals.

Content

Business plans are decision-making tools. The content and format of the business plan is determined by the goals and audience. For example, a business plan for a non-profit might discuss the fit between the business plan and the organization's mission. Banks are quite concerned about defaults, so a business plan for a bank loan will build a convincing case for the organization's ability to repay the loan. Venture capitalists are primarily concerned about initial investment, feasibility, and exit valuation. A business plan for a project requiring equity financing will need to explain why current resources, upcoming growth opportunities, and sustainable competitive advantage will lead to a high exit valuation.

Preparing a business plan draws on a wide range of knowledge from many different business disciplines: finance, human resource management, intellectual property management, supply chain management, operations management, and marketing, among others. It can be helpful to view the business plan as a collection of sub-plans, one for each of the main business disciplines.

"... a good business plan can help to make a good business credible, understandable, and attractive to someone who is unfamiliar with the business. Writing a good business plan can't guarantee success, but it can go a long way toward reducing the odds of failure."

Presentation

The format of a business plan depends on its presentation context. It is common for businesses, especially start-ups, to have three or four formats for the same business plan.

An “elevator pitch” is a short summary of the plan’s executive summary. This is often used as a teaser to awaken the interest of potential investors, customers, or strategic partners.

A pitch deck is a slide show and oral presentation that is meant to trigger discussion and interest potential investors in reading the written presentation. The content of the presentation is usually limited to the executive summary and a few key graphs showing financial trends and key decision making benchmarks. If a new product is being proposed and time permits, a demonstration of the product may be included.

A written presentation for external stakeholders is a detailed, well written, and pleasingly formatted plan targeted at external stakeholders.

An internal operational plan is a detailed plan describing planning details that are needed by management but may not be of interest to external stakeholders. Such plans have a somewhat higher degree of candor and informality than the version targeted at external stakeholders and others.

Typical Structure for A Business Plan for A Start Up Venture

- cover page and table of contents
- executive summary
- mission statement
- business description
- business environment analysis
- SWOT analysis
- industry background
- competitor analysis
- market analysis
- marketing plan
- operations plan
- management summary
- financial plan
- attachments and milestones

Typical Questions Addressed by A Business Pplan for a Start Up Venture

- What problem does the company’s product or service solve? What niche will it fill?
- What is the company’s solution to the problem?
- Who are the company’s customers, and how will the company market and sell its products to them?

- What is the size of the market for this solution?
- What is the business model for the business (how will it make money)?
- Who are the competitors and how will the company maintain a competitive advantage?
- How does the company plan to manage its operations as it grows?
- Who will run the company and what makes them qualified to do so?
- What are the risks and threats confronting the business, and what can be done to mitigate them?
- What are the company's capital and resource requirements?
- What are the company's historical and projected financial statements?

Revising the Business Plan

Cost Overruns and Revenue Shortfalls

Cost and revenue estimates are central to any business plan for deciding the viability of the planned venture. But costs are often underestimated and revenues overestimated resulting in later cost overruns, revenue shortfalls, and possibly non-viability. During the dot-com bubble 1997-2001 this was a problem for many technology start-ups. Reference class forecasting has been developed to reduce the risks of cost overruns and revenue shortfalls and thus generate more accurate business plans.

Legal and Liability Issues

Disclosure Requirements

An externally targeted business plan should list all legal concerns and financial liabilities that might negatively affect investors. Depending on the amount of funds being raised and the audience to whom the plan is presented, failure to do this may have severe legal consequences.

Limitations on Content and Audience

Non disclosure agreements (NDAs) with third parties, non-compete agreements, conflicts of interest, privacy concerns, and the protection of one's trade secrets may severely limit the audience to which one might show the business plan. Alternatively, they may require each party receiving the business plan to sign a contract accepting special clauses and conditions.

This situation is complicated by the fact that many venture capitalists will refuse to sign an NDA before looking at a business plan, lest it put them in the untenable position of looking at two independently developed look-alike business plans, both claiming originality. In such situations one may need to develop two versions of the business plan: a stripped down plan that can be used to develop a relationship and a detail plan that is only shown when investors have sufficient interest and trust to sign an NDA.

Open Business Plans

Traditionally business plans have been highly confidential and quite limited in audience. The business plan itself is generally regarded as secret.

An open business plan is a business plan with unlimited audience. The business plan is typically web published and made available to all.

In the free software and open source business model, trade secrets, copyright and patents can no longer be used as effective locking mechanisms to provide sustainable advantages to a particular business and therefore a secret business plan is less relevant in those models.

Uses

- Education
    - Business plans are used in some primary and secondary programs to teach economic principles.
    - Wikiversity has a Lunar Boom Town project where students of all ages can collaborate with designing and revising business models and practice evaluating them to learn practical business planning techniques and methodology
- Fundraising

Fundraising is the primary purpose for many business plans, since they are related to the inherent probable success/failure of the company risk.

- Angel investors
- Business loans
- Grants
- Startup company funding
- Venture capital

- Internal use
    - Management by objectives (MBO) is a process of agreeing upon objectives (as can be detailed within business plans) within an organization so that management and employees agree to the objectives and understand what they are in the organization.
    - Strategic planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy, including its capital and people. Business plans can help decision makers see how specific projects relate to the organization's strategic plan.
    - Total quality management (TQM) is a business management strategy aimed at embedding awareness of quality in all organizational processes. TQM has been widely used in manufacturing, education, call centers, government, and service industries, as well as NASA space and science programs.

Template:Referenced Section

Not for Profit Businesses

The business goals may be defined both for non-profit or for-profit organizations. For-profit business plans typically focus on financial goals, such as profit or creation of wealth. Non-profit, as well as government agency business plans tend to focus on the "organizational mission" which is the basis for their governmental status or their non-profit, tax-exempt status, respectively—although non-profits may also focus on optimizing revenue.

The primary difference between profit and non-profit organizations is that "for-profit" organizations look to maximize wealth versus non-profit organizations, which look to provide a greater good to society. In non-profit organizations, creative tensions may develop in the effort to balance mission with "margin" (or revenue).

Satires

The business plan is the subject of many satires. Satires are used both to express cynicism about business plans and as an educational tool to improve the quality of business plans. For example,

- In his presentation, *Five Criteria For a Successful Business Plan in Biotech*, Dr. Roger Bernier, uses *Dilbert* comic strips to remind people what *not* to do when researching and writing a business plan for a biotech start-up.
- Selena Maranjian's "Fool on the Hill" article in the *The Motley Fool*, "'South Park's' Investing Lesson" (November 8, 2001), references the "Underpants Gnomes" to illustrate the fallacy of focusing on goals without a clear implementation strategy. That "Gnomes" episode satirizes the business plans of the Dot-com era.

Strategic Planning

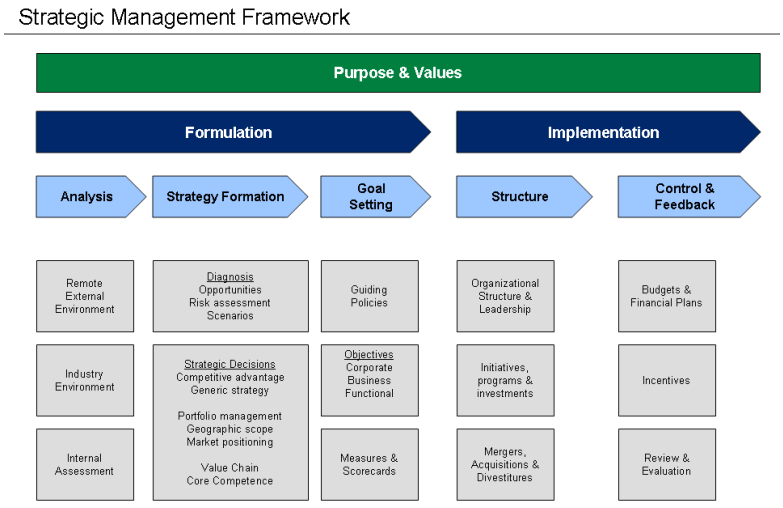
Strategic planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy. It may also extend to control mechanisms for guiding the implementation of the strategy. Strategic planning became prominent in corporations during the 1960s and remains an important aspect of strategic management. It is executed by strategic planners or strategists, who involve many parties and research sources in their analysis of the organization and its relationship to the environment in which it competes.

Strategy has many definitions, but generally involves setting goals, determining actions to achieve the goals, and mobilizing resources to execute the actions. A strategy describes how the ends (goals) will be achieved by the means (resources). The senior leadership of an organization is generally tasked with determining strategy. Strategy can be planned (intended) or can be observed as a pattern of activity (emergent) as the organization adapts to its environment or competes.

Strategy includes processes of formulation and implementation; strategic planning helps coordi-

nate both. However, strategic planning is analytical in nature (i.e., it involves "finding the dots"); strategy formation itself involves synthesis (i.e., "connecting the dots") via strategic thinking. As such, strategic planning occurs around the strategy formation activity.

Process



Strategic management processes and activities

Overview

Strategic planning is a process and thus has inputs, activities, outputs and outcomes. This process, like all processes, has constraints. It may be formal or informal and is typically iterative, with feedback loops throughout the process. Some elements of the process may be continuous and others may be executed as discrete projects with a definitive start and end during a period. Strategic planning provides inputs for strategic thinking, which guides the actual strategy formation. The end result is the organization's strategy, including a diagnosis of the environment and competitive situation, a guiding policy on what the organization intends to accomplish, and key initiatives or action plans for achieving the guiding policy.

Michael Porter wrote in 1980 that formulation of competitive strategy includes consideration of four key elements:

1. Company strengths and weaknesses;
2. Personal values of the key implementers (i.e., management and the board);
3. Industry opportunities and threats; and
4. Broader societal expectations.

The first two elements relate to factors internal to the company (i.e., the internal environment), while the latter two relate to factors external to the company (i.e., the external environment). These elements are considered throughout the strategic planning process.

Inputs

Data is gathered from a variety of sources, such as interviews with key executives, review of publicly available documents on the competition or market, primary research (e.g., visiting or observing competitor places of business or comparing prices), industry studies, etc. This may be part of a competitive intelligence program. Inputs are gathered to help support an understanding of the competitive environment and its opportunities and risks. Other inputs include an understanding of the values of key stakeholders, such as the board, shareholders, and senior management. These values may be captured in an organization's vision and mission statements.

Activities

The essence of formulating competitive strategy is relating a company to its environment.

Michael Porter

Strategic planning activities include meetings and other communication among the organization's leaders and personnel to develop a common understanding regarding the competitive environment and what the organization's response to that environment (its strategy) should be. A variety of strategic planning tools (described in the section below) may be completed as part of strategic planning activities.

The organization's leaders may have a series of questions they want answered in formulating the strategy and gathering inputs, such as:

- What is the organization's business or interest?
- What is considered "value" to the customer or constituency?
- Which products and services should be included or excluded from the portfolio of offerings?
- What is the geographic scope of the organization?
- What differentiates the organization from its competitors in the eyes of customers and other stakeholders?
- Which skills and resources should be developed within the organization?

Outputs

The output of strategic planning includes documentation and communication describing the organization's strategy and how it should be implemented, sometimes referred to as the strategic plan. The strategy may include a diagnosis of the competitive situation, a guiding policy for achieving the organization's goals, and specific action plans to be implemented. A strategic plan may cover multiple years and be updated periodically.

The organization may use a variety of methods of measuring and monitoring progress towards the objectives and measures established, such as a balanced scorecard or strategy map. Companies may also plan their financial statements (i.e., balance sheets, income statements, and cash flows) for several years when developing their strategic plan, as part of the goal setting activity. The term operational budget is often used to describe the expected financial performance of an organization

for the upcoming year. Capital budgets very often form the backbone of a strategic plan, especially as it increasingly relates to Information and Communications Technology (ICT).

Outcomes

Whilst the planning process produces outputs, as described above, strategy implementation or execution of the strategic plan produces Outcomes. These outcomes will invariably differ from the strategic goals. How close they are to the strategic goals and vision will determine the success or failure of the strategic plan. There will also arise unintended Outcomes, which need to be attended to and understood for strategy development and execution to be a true learning process. One of the immediate goals to be achieved by the action plan includes ensuring that the organization conforms to the legal requirements. A business organization that operates within the legal requirements operates with minimum problems; this directly increases the company's share-market. Climbing the corporate ladder sees to it that the organization increases both its income and expenses (He, 2012). The other short-term objective to be met by the strategic action plan entails increased customer loyalty. Customers are usually attracted to business organizations that offered good services and respected the client needs. Each departmental head will be responsible for their teams. They will monitor the activities and operations of the conducted for each strategic action. Different organizational teams will take responsibility for the various marketing strategies in the organization. The successful strategists will be rewarded, an incentive for them to work harder to attain the organization's long-term goals

Tools and Approaches

A variety of analytical tools and techniques are used in strategic planning. These were developed by companies and management consulting firms to help provide a framework for strategic planning. Such tools include:

- PEST analysis, which covers the remote external environment elements such as political, economic, social and technological (PESTLE adds legal/regulatory and ecological/environmental);
- Scenario planning, which was originally used in the military and recently used by large corporations to analyze future scenarios;
- Porter five forces analysis, which addresses industry attractiveness and rivalry through the bargaining power of buyers and suppliers and the threat of substitute products and new market entrants;
- SWOT analysis, which addresses internal strengths and weaknesses relative to the external opportunities and threats;
- Growth-share matrix, which involves portfolio decisions about which businesses to retain or divest; and
- Balanced Scorecards and strategy maps, which creates a systematic framework for measuring and controlling strategy.
- The Nine Steps to Success(TM) - The Balanced Scorecard Institute's framework for Strategic Planning and Management.

Strategic Planning vs. Financial Planning

Simply extending financial statement projections into the future without consideration of the competitive environment is a form of financial planning or budgeting, not strategic planning. In business, the term "financial plan" is often used to describe the expected financial performance of an organization for future periods. The term "budget" is used for a financial plan for the upcoming year. A "forecast" is typically a combination of actual performance year-to-date plus expected performance for the remainder of the year, so is generally compared against plan or budget and prior performance. The financial plans accompanying a strategic plan may include 3–5 years of projected performance.

McKinsey & Company developed a capability maturity model in the 1970s to describe the sophistication of planning processes, with strategic management ranked the highest. The four stages include:

1. Financial planning, which is primarily about annual budgets and a functional focus, with limited regard for the environment;
2. Forecast-based planning, which includes multi-year financial plans and more robust capital allocation across business units;
3. Externally oriented planning, where a thorough situation analysis and competitive assessment is performed;
4. Strategic management, where widespread strategic thinking occurs and a well-defined strategic framework is used.

Categories 3 and 4 are strategic planning, while the first two categories are non-strategic or essentially financial planning. Each stage builds on the previous stages; that is, a stage 4 organization completes activities in all four categories.

Criticism

Strategic Planning vs. Strategic Thinking

Strategic planning has been criticized for attempting to systematize strategic thinking and strategy formation, which Henry Mintzberg argues are inherently creative activities involving synthesis or "connecting the dots" which cannot be systematized. Mintzberg argues that strategic planning can help coordinate planning efforts and measure progress on strategic goals, but that it occurs "around" the strategy formation process rather than within it. Further, strategic planning functions remote from the "front lines" or contact with the competitive environment (i.e., in business, facing the customer where the effect of competition is most clearly evident) may not be effective at supporting strategy efforts.

Cash Flow

A cash flow describes a real or virtual movement of money:

- a *cash flow* in its narrow sense is a payment (in a currency), especially from one central bank account to another; the term 'cash flow' is mostly used to describe payments that are

expected to happen in the future, are thus uncertain and therefore need to be forecasted with cash flows;

- a cash flow is determined by its *time t*, *nominal amount N*, *currency CCY* and *account A*; symbolically *CF=CF(t,N,CCY,A)*.
- it is however popular to use *cash flows* in a less specified sense describing (symbolic) payments into or out of a business, project, or financial product.

Cash flows are narrowly interconnected with the concepts of value, *interest rate* and liquidity. A cash flow that shall happen on a future day *tN* can be transformed into a cashflow of the same value in *to*.

Cash Flow Analysis

Cash flows are often transformed into measures that give information e.g. on a company's value and situation:

- to determine a project's rate of return or value. The time of cash flows into and out of projects are used as inputs in financial models such as internal rate of return and net present value.
- to determine problems with a business's liquidity. Being profitable does not necessarily mean being liquid. A company can fail because of a shortage of cash even while profitable.
- as an alternative measure of a business's profits when it is believed that accrual accounting concepts do not represent economic realities. For instance, a company may be notionally profitable but generating little operational cash (as may be the case for a company that barters its products rather than selling for cash). In such a case, the company may be deriving additional operating cash by issuing shares or raising additional debt finance.
- cash flow can be used to evaluate the 'quality' of income generated by accrual accounting. When net income is composed of large non-cash items it is considered low quality.
- to evaluate the risks within a financial product, e.g., matching cash requirements, evaluating default risk, re-investment requirements, etc.

Cash flow notion is based loosely on cash flow statement accounting standards. the term is flexible and can refer to time intervals spanning over past-future. It can refer to the total of all flows involved or a subset of those flows. Subset terms include net cash flow, operating cash flow and free cash flow.

Symptoms of cash flow problems. There are many reasons a business can suffer cash flow problems – some are down to mismanagement and poor decisions, and in some cases factors outside of your control. Any of the following symptoms can indicate that a business is experiencing cash flow problems:

- Up to overdraft limit – no headroom / returned payments
- Stretch to pay salaries each month

- Trade creditor arrears
- Taxation arrears
- Rent arrears
- No working capital 'buffer' – surviving day to day
- Negative working capital on balance sheet – over geared / losses?
- Lack of funds for remedial action (redundancies / premises relocation)
- Lack of profitability – insufficient to support owner / manager's lifestyle
- Unable to pay for professional advice

Cash flow problems can be avoided through good credit management; the Chartered Institute of Credit Management has produced a series of Managing Cash flow Guides which are available on its website which have been dowloaded more than 500,000 times at December 2015

Business' Financials

The (total) net cash flow of a company over a period (typically a quarter, half year, or a full year) is equal to the change in cash balance over this period: positive if the cash balance increases (more cash becomes available), negative if the cash balance decreases. The total net cash flow for a project is the sum of cash flows that are classified in three areas

1. Operational cash flows: Cash received or expended as a result of the company's internal business activities.

so how to calculate operating cash flow of a project? OCF=incremental earnings+depreciation=(earning before interest and tax-tax)+depreciation=earning before interest and tax*(1-tax rate)+ depreciation= (revenue - cost of good sold- operating expense- depreciation)* (1-tax rate)+depreciation= (Revenue - cost of good sold- operating expense)* (1-tax rate)+ depreciation* tax. By the way, depreciation*tax which locates at the end of the formula is called depreciation shield through which we can see that there is a negative relation between depreciation and cash flow.

1. changing in net working capital. It is the cost or revenue related to the company's short-term asset like inventory.
2. capital spending. This is the cost or gain related to the company's fix asset such as the cash used to buy a new equipment or the cash which is gained from selling an old equipment.

The sum of the three component above will be the cash flow for a project.

And the cash flow for a company also include three parts:

1. operating cash flow: It refers to the cash received or loss because of the internal activities of a company such as the cash received from sales revenue or the cash paid to the workers.
2. investment cash flow: It refers to the cash flow which related to the company's fix asset such as equipment building and so on such as the cash used to buy a new equipment or a building

3. financing cash flow: cash flow from a company's financing activities like issuing stock or paying dividends.

The sum of the three components above will be the total cash flow of a company.

Examples

Description	Amount ($)	totals ($)
Cash flow from operations		+70
Sales (paid in cash)	+30	
Incoming loan	+50	
Loan repayment	-5	
Taxes	-5	
Cash flow from investments		-10
Purchased capital	-10	
Total		60

The net cash flow only provides a limited amount of information. Compare, for instance, the cash flows over three years of two companies:

	Company A			Company B		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Cash flow from operations	+20M	+21M	+22M	+10M	+11M	+12M
Cash flow from financing	+5M	+5M	+5M	+5M	+5M	+5M
Cash flow from investment	-15M	-15M	-15M	0M	0M	0M
Net cash flow	+10M	+11M	+12M	+15M	+16M	+17M

Company B has a higher yearly cash flow. However, Company A is actually earning more cash by its core activities and has already spent 45M in long term investments, of which the revenues will only show up after three years.

Business Incubator

A business incubator in business speak is a company that helps new and startup companies to develop by providing services such as management training or office space.

Employees at work in a business incubator in Germany.

Business incubators differ from research and technology parks in their dedication to startup and early-stage companies. Research and technology parks, on the other hand, tend to be large-scale projects that house everything from corporate, government or university labs to very small companies. Most research and technology parks do not offer business assistance services, which are the hallmark of a business incubation program. However, many research and technology parks house incubation programs.

Incubators also differ from the U.S. Small Business Administration's Small Business Development Centers (and similar business support programs) in that they serve only selected clients. SBDCs are required by law to offer general business assistance to any company that contacts them for help. In addition, SBDCs work with any small business at any stage of development, not only startup companies. Many business incubation programs partner with their local SBDC to create a "one-stop shop" for entrepreneurial support.

Within European Union countries there are different EU and state funded programs that offer support in form of consulting, mentoring, prototype creation and other services and co-funding for them. TecHub is one of examples for IT companies and ideas.

History

The formal concept of business incubation began in the USA in 1959 when Joseph Mancuso opened the Batavia Industrial Center in a Batavia, New York, warehouse. Incubation expanded in the U.S. in the 1980s and spread to the UK and Europe through various related forms (e.g. innovation centres, pépinières d'entreprises, technopoles/science parks).

The U.S.-based The International Business Innovation Association estimates that there are about 7,000 incubators worldwide. As of October 2006, there were more than 1,400 incubators in North America, up from only 12 in 1980. Her Majesty's Treasury identified around 25 incubation environments in the UK in 1997; by 2005, UKBI identified around 270 incubation environments across the country. A study funded by the European Commission in 2002 identified around 900 incubation environments in Western Europe.

Incubation activity has not been limited to developed countries; incubation environments are now being implemented in developing countries and raising interest for financial support from organisations such as UNIDO and the World Bank.

On November 3, 2010, New York City broke ground on its sixth business incubator and the first in the Bronx called the Sunshine Bronx Business Incubator which is a joint venture between the New York City Economic Development Corporation and Sunshine Suites. Manufacture New York is a Manhattan-based fashion incubator and small-run production facility.

Incubators are going through a renaissance as of 2011. New experiments like Virtual Business Incubators are bringing the resources of entrepreneurship hubs like Silicon Valley to remote locations all over the world. The Emerging Enterprise Center run by the New Castle County Chamber of Commerce incubator is a bit different than most in the country since the chamber embeds its own home-grown program inside the existing chamber of commerce.

In 2005 alone, North American incubation programs assisted more than 27,000 companies that provided employment for more than 100,000 workers and generated annual revenues of $17 billion.

Types of Services

Since startup companies lack many resources, experience and networks, incubators provider services which helps them get through initial hurdles in starting up a business. These hurdles include space, funding, legal, accounting, computer services and other prerequisites to running the business.

Among the most common incubator services are:

- Help with business basics
- Networking activities
- Marketing assistance
- Market Research
- High-speed Internet access
- Help with accounting/financial management
- Access to bank loans, loan funds and guarantee programs
- Help with presentation skills
- Links to higher education resources
- Links to strategic partners
- Access to angel investors or venture capital
- Comprehensive business training programs
- Advisory boards and mentors
- Management team identification
- Help with business etiquette

- Technology commercialization assistance
- Help with regulatory compliance
- Intellectual property management

Types

There are a number of business incubators that have focused on particular industries or on a particular business model, earning them their own name.

This list is incomplete; you can help by expanding it.

- Virtual business incubator - online business incubator
- Kitchen incubator - a business incubator focused on the food industry
- Public incubator - a business incubator focused on the public good
- Seed accelerator - a business incubator focused on early startups
    - Corporate accelerator - a program of a larger company that acts akin to a seed accerator
- Startup studio - a business incubator with interacting portfolio companies
    - Venture builder - similar to a startup studio, but builds companies internally

Industry sectors intentionally supported by incubation programs		
Technology	Creative industries	Construction
Computer software	eBusiness / eCommerce	Arts
Services/professional	Wireless technology	Aerospace
Manufacturing	Healthcare technology	Kitchen/Food
Internet	Advanced materials	Retail
Biosciences/life sciences	Defense/homeland security	Fashion
Electronics/Microelectronics	Energy/Power	Wood/forestry
Telecommunications	Environment/clean technologies	Tourism
Computer hardware	Logistics/Delivery	Manpower
Medical devices	Nanotechnology	Media

More than half of all business incubation programs are “mixed-use” projects, meaning they work with clients from a variety of industries. Technology incubators account for 39% of incubation programs.

One example of a specialized type of incubator is a *bioincubator*. Bioincubators specialize in supporting life science-based startup companies. Entrepreneurs with feasible projects in life sciences are selected and admitted for these programs.

Overview

The Incubation Process

Unlike many business assistance programs, business incubators do not serve any and all companies. Entrepreneurs who wish to enter a business incubation program must apply for admission. Acceptance criteria vary from program to program, but in general only those with feasible business ideas and a workable business plan are admitted. It is this factor that makes it difficult to compare the success rates of incubated companies against general business survival statistics.

Although most incubators offer their clients office space and shared administrative services, the heart of a true business incubation program is the services it provides to startup companies.

More than half of incubation programs surveyed by the National Business Incubation Association in 2006 reported that they also served affiliate or virtual clients. These companies do not reside in the incubator facility. Affiliate clients may be home-based businesses or early-stage companies that have their own premises but can benefit from incubator services. Virtual clients may be too remote from an incubation facility to participate on site, and so receive counseling and other assistance electronically.

The amount of time a company spends in an incubation program can vary widely depending on a number of factors, including the type of business and the entrepreneur's level of business expertise. Life science and other firms with long research and development cycles require more time in an incubation program than manufacturing or service companies that can immediately produce and bring a product or service to market. On average, incubator clients spend 33 months in a program. Many incubation programs set graduation requirements by development benchmarks, such as company revenues or staffing levels, rather than time.

Goals and Sponsors

Business incubation has been identified as a means of meeting a variety of economic and socioeconomic policy needs, which may include job creation, fostering a community's entrepreneurial climate, technology commercialization, diversifying local economies, building or accelerating growth of local industry clusters, business creation and retention, encouraging women or minority entrepreneurship, identifying potential spin-in or spin-out business opportunities, or community revitalization.

About one-third of business incubation programs are sponsored by economic development organizations. Government entities (such as cities or counties) account for 21% of program sponsors. Another 20% are sponsored by academic institutions, including two- and four-year colleges, universities, and technical colleges.

In many countries, incubation programs are funded by regional or national governments as part of an overall economic development strategy. In the United States, however, most incubation programs are independent, community-based and resourced projects. The U.S. Economic Development Administration is a frequent source of funds for developing incubation programs, but once a program is open and operational it typically receives no federal funding; few states offer centralized incubator funding. Rents and/or client fees account for 59% of incubator revenues, followed by service contracts or grants (18%) and cash operating subsidies (15%).

As part of a major effort to address the ongoing economic crisis of the US, legislation was introduced to "reconstitute Project Socrates". The updated version of Socrates supports incubators by enabling users with technology-based facts about the marketplace, competitor maneuvers, potential partners, and technology paths to achieve competitive advantage. Michael Sekora, the original creator and director of Socrates says that a key purpose of Socrates is to assist government economic planners in addressing the economic and socioeconomic issues with unprecedented speed, efficiency and agility.

Many for-profit or "private" incubation programs were launched in the late 1990s by investors and other for-profit operators seeking to hatch businesses quickly and bring in big payoffs. At the time, NBIA estimated that nearly 30% of all incubation programs were for-profit ventures. In the wake of the dot-com bust, however, many of those programs closed. In NBIA's 2002 State of the Business Incubation survey, only 16% of responding incubators were for-profit programs. By the 2006 SOI, just 6% of respondents were for-profit.

Although some incubation programs (regardless of nonprofit or for-profit status) take equity in client companies, most do not. Only 25% of incubation programs report that they take equity in some or all of their clients.

Incubator Networks

Incubators often aggregate themselves into networks which are used to share good practices and new methodologies. Europe's European Business and Innovation Centre Network ("EBN") association federates more than 250 European Business and Innovation Centres (EU|BICs) throughout Europe. France has its own national network of technopoles, pre-incubators, and EU|BICs, called RETIS Innovation. This network focuses on internationalizing startups.

The Startup Federation is an international incubator network that includes incubators such as Washington, D.C.'s 1776, New York City's General Assembly, Boston's Cambridge Innovation Center, London's Warner Yard, Berlin's Betahaus, Chicago's 1871, and others. The network allows collaboration between members of each incubator.

Of 1000 incubators across Europe, 500 are situated in Germany. Many of them are organized federally within the ADT (*Arbeitsgemeinschaft Deutscher Innovations-, Technologie-, und Gründerzentren e.V.*).

List of Business Incubators

The following is an incomplete list of notable companies well known as business incubators:

- UCF Business Incubation Program
- Sunshine Bronx Business Incubator
- Technology Business Incubator TBI-NITC
- Naiot Venture Accelerator
- St John's Innovation Centre

- C4DI (Centre for Digital Innovation)
- Campus Blairon
- CoCoon
- CodeLaunch
- Corporate Accelerator

Entrepreneurial Orientation

Entrepreneurial orientation (EO) is a firm-level strategic orientation which captures an organization's strategy-making practices, managerial philosophies, and firm behaviors that are entrepreneurial in nature. Entrepreneurial orientation has become one of the most established and researched constructs in the entrepreneurship literature. A general commonality among past conceptualizations of EO is the inclusion of innovativeness, proactiveness, and risk-taking as core defining aspects or dimensions of the orientation. EO has been shown to be a strong predictor of firm performance with a meta-analysis of past research indicating a correlation in magnitude roughly equivalent to the prescription of taking sleeping pills and getting better sleep.

Entrepreneurial orientation has most frequently been assessed using a nine-item psychometric instrument developed by Jeff Covin and Dennis Slevin. This instrument captures the perspective of Danny Miller that EO is a 'collective catchall' construct which represents what it means for a firm to be considered entrepreneurial across a wide range of contexts. A seminal quote from Miller (1983, p. 780):

"In general, theorists would not call a firm entrepreneurial if it changed its technology or product line simply by directly imitating competitors while refusing to take any risks. Some proactiveness would be essential as well. By the same token, risk-taking firms that are highly leveraged financially are not necessarily entrepreneurial. They must also engage in product market or technological innovation."

Reviews of the Entrepreneurial orientation literature indicate that the majority of prior studies have adopted Miller's perspective of EO as the combination of innovativeness, proactiveness, and risk-taking.

Lumpkin and Dess offer an alternative view of EO as the combination of five dimensions, those put forth by Miller/Covin and Slevin as well as competitive aggressiveness and autonomy. Moreover, they suggest that additional insights stand to be gained from investigating the dimensions independently. Proceeding research has suggested that there is value in examining EO according to either conceptualization depending upon the demands of the research question being addressed.

Taken together, as a strategic orientation EO enhances firm performance as well as overall variance in a firm's performance. Increased variance occurs as result of the observation that many entrepreneurial actions ultimately fail to generate an economic return thereby contributing to an increased distribution of firm performance outcomes. As a core firm strategic orientation, the breadth and

depth of research on EO continues to expand as the concept is adopted to understand the effects of being entrepreneurial across an increasing number of research contexts.

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8

Ecosystem in Entrepreneurship

An entrepreneurship ecosystem refers to the social and economic environment affecting the local entrepreneurship. Entrepreneurship ecosystem and startup ecosystem are the significant topics related to the concept of ecosystem in entrepreneurship. The following chapter unfolds its crucial aspects in a critical yet systematic manner.

Entrepreneurship Ecosystem

An entrepreneurial ecosystem or entrepreneurship ecosystem refers to the social and economic environment affecting the local/regional entrepreneurship.

It can also be a group of companies, including start-ups, and one or more coordination entities, which share similar goals and decide to form a network or organization in order to explore economies of scale combined with flexibility and entrepreneurial "drive". Economies of scale can be explored in business functions such as business development, financing, market analysis, marketing communications, IT / MIS infrastructure, human capital management, legal support, financial & accounting management while each participating start-up focuses to research & development, product Management, sales & pre-sales / after-sales support.

Some researchers believe governments have little effect to create an ecosystem for entrepreneurship. Nonetheless, the entrepreneurial ecosystem idea does lend itself to entrepreneurship policy, where targeted programs can be developed to plug the gaps in the ecosystem. For example, advisory programs have had some success.

The Ecosystem Metaphor

"Ecosystem" refers to the elements – individuals, organizations or institutions – outside the individual entrepreneur that are conducive to, or inhibitive of, the choice of a person to become an entrepreneur, or the probabilities of his or her success following launch. Organizations and individuals representing these elements are referred to as entrepreneurship stakeholders. Stakeholders are any entity that has an interest, actually or potentially, in there being more entrepreneurship in the region. Entrepreneurship stakeholders may include government, schools, universities, private sector, family businesses, investors, banks, entrepreneurs, social leaders, research centers, military, labor representatives, students, lawyers, cooperatives, communes, multinationals, private foundations, and international aid agencies.

In order to explain or create sustainable entrepreneurship, one isolated element in the ecosystem is rarely sufficient. In regions which have extensive amounts of entrepreneurship, including Silicon Valley, Boston, New York City, and Israel, many of the ecosystem elements are

strong and typically have evolved in tandem. Similarly, the formation of these ecosystems suggests that governments or societal leaders who want to foster more entrepreneurship as part of economic policy must strengthen several such elements simultaneously. However, recent research shows that government policy is often limited in what it can do to develop entrepreneurial ecosystems.

In July 2010, the Harvard Business Review published an article by Daniel Isenberg, Professor of Entrepreneurship Practice at Babson College, entitled "How to Start an Entrepreneurial Revolution." In this article, Isenberg describes the environment in which entrepreneurship tends to thrive. Drawing from examples from around the world, the article proposes that entrepreneurs are most successful when they have access to the human, financial and professional resources they need, and operate in an environment in which government policies encourage and safeguard entrepreneurs. This network is described as the entrepreneurship ecosystem.

An entrepreneurship ecosystem can be a group of companies, including start-ups, and one or more coordination entities, which share similar goals and decide to form a network or organization in order to explore economies of scale combined with flexibility and strong entrepreneurial drive. Economies of scale can be explored in business functions such as business development, financing, market analysis, marketing communications, IT / MIS infrastructure, human capital management, legal support, financial & accounting management while each participating start-up focuses to research & development, product Management, and sales, pre-sales, and after-sales support.

There are several key conditions that typically define a healthy ecosystem. The ecosystem:

- is tailored around its own unique environment – it does not seek to be something it isn't, like the "next Silicon Valley"
- operates in an environment with reduced bureaucratic obstacles in which government policies support the unique needs of entrepreneurs and tolerate failed ventures
- actively encourages and invites financiers to participate in new ventures - although access to money isn't without barriers for those planning new business ventures
- is reinforced, not created from scratch, by government, academic or commercial organizations
- is relatively free from, or is able to change the cultural biases against failure or operating a business
- promotes successes, which in turn attract new ventures
- is supported by dialogue among various of the entrepreneurship stakeholders

Related Content

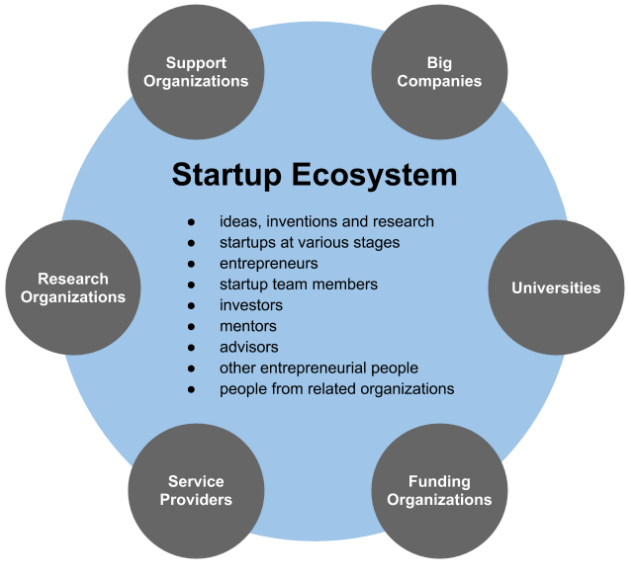
Startup Ecosystem - following the financial downturn of 2008 and the long lasting slow growth period, there have been increasing focus towards fostering more startup company creation around the world to further target regional support efforts towards those type of companies that have higher innovation, growth and job creation potential. This have also lead for increasing focus on startup ecosystem development.

University-based Entrepreneurship Ecosystem – In academic settings, entrepreneurship ecosystems commonly refer to programs within a university that focus on the development of entrepreneurs and/or the commercialization of technology or intellectual property developed at the university level.

Business cluster – A business cluster is a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field. Early research was done in this context by Benjamin Chinitz in 1961. Chinitz posed several theories, but most importantly noticed a correlation between average firm size and average growth rates within regions. In addition, Glaeser, Kerr and Ponzetto followed up this research and confirmed the relationship between smaller average firm size and higher growth rates. Chatterji, Glaeser and Kerr also noted that some of the most famous entrepreneurial clusters (Silicon Valley, Boston's Route 128 Corridor, and Research Triangle Park) were located near large research universities. Governments often look to clusters to stimulate innovation and entrepreneurship in their region. When clusters are applied to entrepreneurship, experts agree governments should not seek to create new clusters, but rather reinforce existing ones. Tony Hsieh, founder of Zappos, has begun a project to see if an entrepreneurial cluster can be created in Las Vegas.

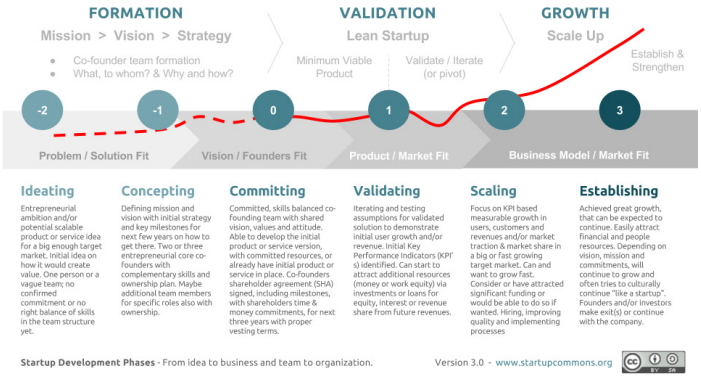
Startup Ecosystem

A startup ecosystem is formed by people, startups in their various stages and various types of organizations in a location (physical or virtual), interacting as a system to create new startup companies. These organizations can be further divided into categories such as universities, funding organizations, support organizations (like incubators, accelerators, co-working spaces etc.), research organizations, service provider organizations (like legal, financial services etc.) and large corporations. Different organizations typically focus on specific parts of the ecosystem function and startups at their specific development stage(s).



Startup Ecosystem

Composition of The Startup Ecosystem



Startup Development Phases

- Ideas, inventions and research i.e. Intellectual property rights (IPR)
- Entrepreneurship Education
- Startups at various stages
- Entrepreneurs
- Start up team members
- Angel investors
- Startup mentors
- Startup advisors
- Other business-oriented people
- People from other organizations with start-up activities
- Startup events

List of organizations and/or organized activities with startup activities

- Universities
- Advisory and mentoring organizations
- Startup incubators
- Startup accelerators
- Coworking spaces
- Service providers (Consulting, Accounting, Legal, etc.)
- Event organizers
- Start-up competitions
- Startup Business Model Evaluators

- Business Angel Networks
- Venture capital companies
- Equity Crowdfunding portals
- Other funding providers (loans, grants etc.)
- Start-up blogs and social networks
- Other facilitators

Investors from these roles are linked together through shared events, activities, locations and interactions. Start-up ecosystems are generally encompass the network of interactions among people, organizations, and their environment. Any particular start-up ecosystem is defined by its collection of specific cities or online communities.

In addition, resources like skills, time and money are also essential components of a start-up ecosystem. The resources that flow through ecosystems are obtained primarily from the meetings between people and organizations that are an active part of those start-up ecosystems. These interactions help to create new potential startups and/or to strengthen the already existing ones.

External and Internal Factors

Start-up ecosystems are controlled by both external and internal factors. External factors, such as financial climate, big market disruptions and significant transitions, control the overall structure of an ecosystem and the way things work within it. Start-up ecosystems are dynamic entities which progress from formation stages to periodic disturbances (like the financial bubbles) and then to recovering processes.

Start-up ecosystems in similar environments but located in different parts of the world can end up doing things differently simply because they have a different entrepreneurial culture and resource pool. The introduction of non-native peoples' knowledge and skills can also cause substantial shifts in the ecosystem's functions.

Internal factors act as feedback loops inside any particular start-up ecosystem. They not only control ecosystem processes, but are also controlled by them. While some of the resource inputs are generally controlled by external processes like financial climate and market disruptions, the availability of resources within the ecosystem are controlled by every organization's ability to contribute towards the ecosystem. Although people exist and operate within ecosystems, their cumulative effects are large enough to influence external factors like financial climate.

Role of Employee Diversity

Employee diversity also affects startup ecosystem functions, as do the processes of disturbance and succession. Startup Ecosystems provide a variety of goods and services upon which other people and companies depend on. Thus, the principles of start-up ecosystem management suggest that rather than managing individual people or organizations, resources should be managed at the level of the startup ecosystem itself. Classifying start-up ecosystems into structurally similar units is an important step towards effective ecosystem managing.

Start-up Ecosystem Studies

There are several independent studies made to evaluate start-up ecosystems to better understand and compare various start-up ecosystems and to offer valuable insights of the strengths and weaknesses of different start-up ecosystems. Start-up ecosystems can be studied through a variety of approaches - theoretical studies, studies monitoring specific start-up ecosystems over long periods of time and those that look at differences between start-up ecosystems to elucidate how they work.

In 2012, Startup Genome released a comprehensive study that compared startup ecosystems. It found the top three startup ecosystems to be Silicon Valley, Tel Aviv, and Los Angeles, but it omitted Asian markets due to lack of data.

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9

Bootstrapping in Entrepreneurship

This chapter will provide an integrated understanding of bootstrapping in entrepreneurship. Entrepreneurs usually attempt to bootstrap-finance their finance rather than seek for external investors. One of the major reasons for them to bootstrap their finance is the fact that obtaining equity financing requires the entrepreneur to provide ownership shares to investors. Types of bootstrapping include owner financing, sweat equity, delaying bill payments and personal debt. The major components of bootstrapping are discussed in this chapter.

Leveraged Buyout

A leveraged buyout (LBO) is a transaction when a company or single asset (e.g., a real estate property) is purchased with a combination of equity and significant amounts of borrowed money, structured in such a way that the target's cash flows or assets are used as the collateral (or "leverage") to secure and repay the borrowed money. Since the debt (be it senior or mezzanine) has a lower cost of capital than the equity, the returns on the equity increase as the amount of borrowed money does until the perfect capital structure is reached. As a result, the debt effectively serves as a lever to increase returns-on-investment.

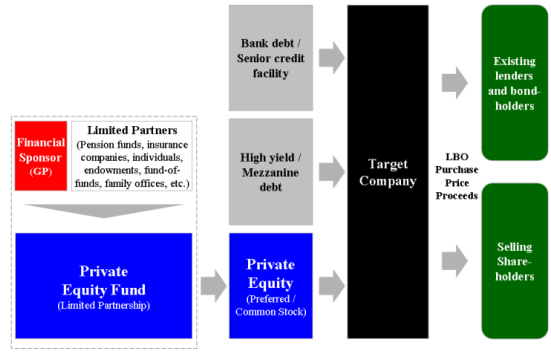

Diagram of the basic structure of a generic leveraged buyout transaction

The term LBO is usually employed when a financial sponsor acquires a company. However, many corporate transactions are partially funded by bank debt, thus effectively also representing an LBO. LBOs can have many different forms such as management buyout (MBO), management buy-in (MBI), secondary buyout and tertiary buyout, among others, and can occur in growth situations, restructuring situations, and insolvencies. LBOs mostly occur in private companies, but can also be employed with public companies (in a so-called PtP transaction – Public to Private).

As financial sponsors increase their returns by employing a very high leverage (i.e., a high ratio of debt to equity), they have an incentive to employ as much debt as possible to finance an acquisition. This has, in many cases, led to situations in which companies were "over-leveraged", meaning

that they did not generate sufficient cash flows to service their debt, which in turn led to insolvency or to debt-to-equity swaps in which the equity owners lose control over the business to the lenders.

Characteristics

LBOs have become attractive as they usually represent a win-win situation for the financial sponsor and the banks: the financial sponsor can increase the rate of returns on his equity by employing the leverage; banks can make substantially higher margins when supporting the financing of LBOs as compared to usual corporate lending, because the interest chargeable is that much higher.

The amount of debt banks are willing to provide to support an LBO varies greatly and depends, among other things, on:

- The quality of the asset to be acquired (stability of cash flows, history, growth prospects, hard assets, etc.)
- The amount of equity supplied by the financial sponsor
- The history and experience of the financial sponsor
- The overall economic environment

For companies with very stable and secured cash flows (e.g., real estate portfolios with rental income secured with long-term rental agreements), debt volumes of up to 100% of the purchase price have been provided. In situations of "normal" companies with normal business risks, debt of 40–60% of the purchase price are usual figures. The possible debt ratios vary significantly among the regions and the target industries.

Depending on the size and purchase price of the acquisition, the debt is provided in different tranches.

- Senior debt: This debt is secured with the assets of the target company and has the lowest interest margins
- Junior debt (usually mezzanine): this debt usually has no securities and thus bears higher interest margins

In larger transactions, sometimes all or part of these two debt types is replaced by high yield bonds. Depending on the size of the acquisition, debt as well as equity can be provided by more than one party. In larger transactions, debt is often syndicated, meaning that the bank who arranges the credit sells all or part of the debt in pieces to other banks in an attempt to diversify and hence reduce its risk. Another form of debt that is used in LBOs are seller notes (or vendor loans) in which the seller effectively uses parts of the proceeds of the sale to grant a loan to the purchaser. Such seller notes are often employed in management buyouts or in situations with very restrictive bank financing environments. Note that in close to all cases of LBOs, the only collateralization available for the debt are the assets and cash flows of the company. The financial sponsor can treat their investment as common equity or preferred equity among other types of securities. Preferred equity can pay a dividend and has payment preferences to common equity.

As a rule of thumb, senior debt usually has interest margins of 3–5% (on top of Libor or Euribor) and needs to be paid back over a period of 5 to 7 years; junior debt has margins of 7–16%, and

needs to be paid back in one payment (as bullet) after 7 to 10 years. Junior debt often additionally has warrants and its interest is often all or partly of PIK nature.

In addition to the amount of debt that can be used to fund leveraged buyouts, it is also important to understand the types of companies that private equity firms look for when considering leveraged buyouts.

While different firms pursue different strategies, there are some characteristics that hold true across many types of leveraged buyouts:

- Stable cash flows - The company being acquired in a leveraged buyout must have sufficiently stable cash flows to pay its interest expense and repay debt principal over time. So mature companies with long-term customer contracts and/or relatively predictable cost structures are commonly acquired in LBOs.
- Relatively low fixed costs - Fixed costs create substantial risk for Private Equity firms because companies still have to pay them even if their revenues decline.
- Relatively little existing debt - The "math" in an LBO works because the private equity firm adds more debt to a company's capital structure, and then the company repays it over time, resulting in a lower effective purchase price; it's tougher to make a deal work when a company already has a high debt balance.
- Valuation - Private equity firms prefer companies that are moderately undervalued to appropriately valued; they prefer not to acquire companies trading at extremely high valuation multiples (relative to the sector) because of the risk that valuations could decline.
- Strong management team - Ideally, the C-level executives will have worked together for a long time and will also have some "skin in the game" by participating in the LBO by rolling over their shares when the deal takes place.

History

Origins

The first leveraged buyout may have been the purchase by McLean Industries, Inc. of Pan-Atlantic Steamship Company in January 1955 and Waterman Steamship Corporation in May 1955. Under the terms of that transaction, McLean borrowed $42 million and raised an additional $7 million through an issue of preferred stock. When the deal closed, $20 million of Waterman cash and assets were used to retire $20 million of the loan debt.

Similar to the approach employed in the McLean transaction, the use of publicly traded holding companies as investment vehicles to acquire portfolios of investments in corporate assets was a relatively new trend in the 1960s, popularized by the likes of Warren Buffett (Berkshire Hathaway) and Victor Posner (DWG Corporation), and later adopted by Nelson Peltz (Triarc), Saul Steinberg (Reliance Insurance) and Gerry Schwartz (Onex Corporation). These investment vehicles would utilize a number of the same tactics and target the same type of companies as more traditional leveraged buyouts and in many ways could be considered a forerunner of the later private equity firms. In fact, it is Posner who is often credited with coining the term "leveraged buyout" or "LBO."

The leveraged buyout boom of the 1980s was conceived in the 1960s by a number of corporate financiers, most notably Jerome Kohlberg, Jr. and later his protégé Henry Kravis. Working for Bear Stearns at the time, Kohlberg and Kravis, along with Kravis' cousin George Roberts, began a series of what they described as "bootstrap" investments. Many of the target companies lacked a viable or attractive exit for their founders, as they were too small to be taken public and the founders were reluctant to sell out to competitors. Thus a sale to a buyer might prove attractive. Their acquisition of Orkin Exterminating Company in 1964 is among the first significant leveraged buyout transactions. In the following years the three Bear Stearns bankers would complete a series of buyouts including Stern Metals (1965), Incom (a division of Rockwood International, 1971), Cobblers Industries (1971), and Boren Clay (1973) as well as Thompson Wire, Eagle Motors and Barrows through their investment in Stern Metals. By 1976, tensions had built up between Bear Stearns and Kohlberg, Kravis and Roberts leading to their departure and the formation of Kohlberg Kravis Roberts in that year.

1980s

In January 1982, former U.S. Secretary of the Treasury William E. Simon and a group of investors acquired Gibson Greetings, a producer of greeting cards, for $80 million, of which only $1 million was rumored to have been contributed by the investors. By mid-1983, just sixteen months after the original deal, Gibson completed a $290 million IPO and Simon made approximately $66 million. The success of the Gibson Greetings investment attracted the attention of the wider media to the nascent boom in leveraged buyouts. Between 1979 and 1989, it was estimated that there were over 2,000 leveraged buyouts valued in excess of $250 billion

In the summer of 1984 the LBO was a target for virulent criticism by Paul Volcker, then chairman of the Federal Reserve, by John S.R. Shad, chairman of the U.S. Securities and Exchange Commission, and other senior financiers. The gist of all the denunciations was that top-heavy reversed pyramids of debt were being created and that they would soon crash, destroying assets and jobs.

During the 1980s, constituencies within acquired companies and the media ascribed the "corporate raid" label to many private equity investments, particularly those that featured a hostile takeover of the company, perceived asset stripping, major layoffs or other significant corporate restructuring activities. Among the most notable investors to be labeled corporate raiders in the 1980s included Carl Icahn, Victor Posner, Nelson Peltz, Robert M. Bass, T. Boone Pickens, Harold Clark Simmons, Kirk Kerkorian, Sir James Goldsmith, Saul Steinberg and Asher Edelman. Carl Icahn developed a reputation as a ruthless corporate raider after his hostile takeover of TWA in 1985. Many of the corporate raiders were onetime clients of Michael Milken, whose investment banking firm, Drexel Burnham Lambert helped raise blind pools of capital with which corporate raiders could make a legitimate attempt to take over a company and provided high-yield debt financing of the buyouts.

One of the final major buyouts of the 1980s proved to be its most ambitious and marked both a high-water mark and a sign of the beginning of the end of the boom that had begun nearly a decade earlier. In 1989, KKR closed in on a $31.1 billion takeover of RJR Nabisco. It was, at that time and for over 17 years following, the largest leverage buyout in history. The event was chronicled in the book (and later the movie), *Barbarians at the Gate: The Fall of RJR Nabisco*. KKR would eventually prevail in acquiring RJR Nabisco at $109 per share marking a dramatic increase from the

original announcement that Shearson Lehman Hutton would take RJR Nabisco private at $75 per share. A fierce series of negotiations and horse-trading ensued which pitted KKR against Shearson Lehman Hutton and later Forstmann Little & Co. Many of the major banking players of the day, including Morgan Stanley, Goldman Sachs, Salomon Brothers, and Merrill Lynch were actively involved in advising and financing the parties. After Shearson Lehman's original bid, KKR quickly introduced a tender offer to obtain RJR Nabisco for $90 per share – a price that enabled it to proceed without the approval of RJR Nabisco's management. RJR's management team, working with Shearson Lehman and Salomon Brothers, submitted a bid of $112, a figure they felt certain would enable them to outflank any response by Kravis's team. KKR's final bid of $109, while a lower dollar figure, was ultimately accepted by the board of directors of RJR Nabisco. At $31.1 billion of transaction value, RJR Nabisco was by far the largest leveraged buyout in history. In 2006 and 2007, a number of leveraged buyout transactions were completed that for the first time surpassed the RJR Nabisco leveraged buyout in terms of nominal purchase price. However, adjusted for inflation, none of the leveraged buyouts of the 2006–2007 period would surpass RJR Nabisco.

By the end of the 1980s the excesses of the buyout market were beginning to show, with the bankruptcy of several large buyouts including Robert Campeau's 1988 buyout of Federated Department Stores, the 1986 buyout of the Revco drug stores, Walter Industries, FEB Trucking and Eaton Leonard. Additionally, the RJR Nabisco deal was showing signs of strain, leading to a recapitalization in 1990 that involved the contribution of $1.7 billion of new equity from KKR.

Drexel Burnham Lambert was the investment bank most responsible for the boom in private equity during the 1980s due to its leadership in the issuance of high-yield debt. Drexel reached an agreement with the government in which it pleaded *nolo contendere* (no contest) to six felonies – three counts of stock parking and three counts of stock manipulation. It also agreed to pay a fine of $650 million – at the time, the largest fine ever levied under securities laws. Milken left the firm after his own indictment in March 1989. On February 13, 1990, after being advised by United States Secretary of the Treasury Nicholas F. Brady, the U.S. Securities and Exchange Commission (SEC), the New York Stock Exchange, and the Federal Reserve, Drexel Burnham Lambert officially filed for Chapter 11 bankruptcy protection.

Age of The Mega-Buyout

The combination of decreasing interest rates, loosening lending standards, and regulatory changes for publicly traded companies (specifically the Sarbanes–Oxley Act) would set the stage for the largest boom the private equity industry had seen. Marked by the buyout of Dex Media in 2002, large multibillion-dollar U.S. buyouts could once again obtain significant high yield debt financing from various banks and larger transactions could be completed. By 2004 and 2005, major buyouts were once again becoming common, including the acquisitions of Toys "R" Us, The Hertz Corporation, Metro-Goldwyn-Mayer and SunGard in 2005.

As 2005 ended and 2006 began, new "largest buyout" records were set and surpassed several times with nine of the top ten buyouts at the end of 2007 having been announced in an 18-month window from the beginning of 2006 through the middle of 2007. In 2006, private equity firms bought 654 U.S. companies for $375 billion, representing 18 times the level of transactions closed in 2003. Additionally, U.S. based private equity firms raised $215.4 billion in investor commitments to 322 funds, surpassing the previous record set in 2000 by 22% and 33% higher than the

2005 fundraising total The following year, despite the onset of turmoil in the credit markets in the summer, saw yet another record year of fundraising with $302 billion of investor commitments to 415 funds Among the mega-buyouts completed during the 2006 to 2007 boom were: Equity Office Properties, HCA, Alliance Boots and TXU.

In July 2007, turmoil that had been affecting the mortgage markets spilled over into the leveraged finance and high-yield debt markets. The markets had been highly robust during the first six months of 2007, with highly issuer friendly developments including PIK and PIK Toggle (interest is "*P*ayable *I*n *K*ind") and covenant light debt widely available to finance large leveraged buyouts. July and August saw a notable slowdown in issuance levels in the high yield and leveraged loan markets with only few issuers accessing the market. Uncertain market conditions led to a significant widening of yield spreads, which coupled with the typical summer slowdown led many companies and investment banks to put their plans to issue debt on hold until the autumn. However, the expected rebound in the market after Labor Day 2007 did not materialize and the lack of market confidence prevented deals from pricing. By the end of September, the full extent of the credit situation became obvious as major lenders including Citigroup and UBS AG announced major writedowns due to credit losses. The leveraged finance markets came to a near standstill. As 2007 ended and 2008 began, it was clear that lending standards had tightened and the era of "mega-buyouts" had come to an end. Nevertheless, private equity continues to be a large and active asset class and the private equity firms, with hundreds of billions of dollars of committed capital from investors are looking to deploy capital in new and different transactions.

Management Buyouts

A special case of a leveraged acquisition is a management buyout (MBO). In an MBO, the incumbent management team (that usually has no or close to no shares in the company) acquires a sizeable portion of the shares of the company. Similar to an MBO is an MBI (Management Buy In) in which an external management team acquires the shares. An MBO can occur for a number of reasons; e.g.,

1. The owners of the business want to retire and want to sell the company to the management team they trust (and with whom they have worked for years)
2. The owners of the business have lost faith in the business and are willing to sell it to the management (who believes in the future of the business) in order to get some value for the business
3. The managers see a value in the business that the current owners do not see and do not want to pursue

In most situations, the management team does not have enough money to fund the equity needed for the acquisition (to be combined with bank debt to constitute the purchase price) so that management teams work together with financial sponsors to part-finance the acquisition. For the management team, the negotiation of the deal with the financial sponsor (i.e., who gets how many shares of the company) is a key value creation lever. Financial sponsors are often sympathetic to MBOs as in these cases they are assured that management believes in the future of the company and has an interest in value creation (as opposed to being solely employed

by the company). There are no clear guidelines as to how big a share the management team must own after the acquisition in order to qualify as an MBO, as opposed to a normal leveraged buy-out in which the management invests together with the financial sponsor. However, in the usual use of the term, an MBO is a situation in which the management team initiates and actively pushes the acquisition.

MBO situations lead management teams often into a dilemma as they face a conflict of interest, being interested in a low purchase price personally while at the same time being employed by the owners who obviously have an interest in a high purchase price. Owners usually react to this situation by offering a deal fee to the management team if a certain price threshold is reached. Financial sponsors usually react to this again by offering to compensate the management team for a lost deal fee if the purchase price is low. Another mechanisms to handle this problem are earn-outs (purchase price being contingent on reaching certain future profitabilities).

There probably are just as many successful MBOs as there are unsuccessful ones. Crucial for the management team at the beginning of the process is the negotiation of the purchase price and the deal structure (including the envy ratio) and the selection of the financial sponsor.

Secondary and Tertiary Buyouts

A secondary buyout is a form of leveraged buyout where both the buyer and the seller are private equity firms or financial sponsors (i.e., a leveraged buyout of a company that was acquired through a leveraged buyout). A secondary buyout will often provide a clean break for the selling private equity firms and its limited partner investors. Historically, given that secondary buyouts were perceived as distressed sales by both seller and buyer, limited partner investors considered them unattractive and largely avoided them.

The increase in secondary buyout activity in 2000s was driven in large part by an increase in capital available for the leveraged buyouts. Often, selling private equity firms pursue a secondary buyout for a number of reasons:

- Sales to strategic buyers and IPOs may not be possible for niche or undersized businesses.
- Secondary buyouts may generate liquidity more quickly than other routes (i.e., IPOs).
- Some kinds of businesses – e.g., those with relatively slow growth but which generate high cash flows – may be most appealing to private equity firms than they are to public stock investors or other corporations.

Often, secondary buyouts have been successful if the investment has reached an age where it is necessary or desirable to sell rather than hold the investment further or where the investment had already generated significant value for the selling firm.

Secondary buyouts differ from secondaries or secondary market purchases which typically involve the acquisition of portfolios of private equity assets including limited partnership stakes and direct investments in corporate securities.

If a company that was acquired in a secondary buyout gets sold to another financial sponsor, the resulting transaction is called a tertiary buyout.

Failures

Some LBOs pre 2000 have resulted in corporate bankruptcy, such as Robert Campeau's 1988 buyout of Federated Department Stores and the 1986 buyout of the Revco drug stores. Many LBOs of the boom period 2005–2007 were also financed with too high a debt burden. The failure of the Federated buyout was a result of excessive debt financing, comprising about 97% of the total consideration, which led to large interest payments that exceeded the company's operating cash flow.

Often, instead of declaring insolvency, the company negotiates a debt restructuring with its lenders. The financial restructuring might entail that the equity owners inject some more money in the company and the lenders waive parts of their claims. In other situations, the lenders inject new money and assume the equity of the company, with the present equity owners losing their shares and investment. The operations of the company are not affected by the financial restructuring. Nonetheless, the financial restructuring requires significant management attention and may lead to customers losing faith in the company.

The inability to repay debt in an LBO can be caused by initial overpricing of the target firm and/or its assets. Over-optimistic forecasts of the revenues of the target company may also lead to financial distress after acquisition. Some courts have found that in certain situations, LBO debt constitutes a fraudulent transfer under U.S. insolvency law if it is determined to be the cause of the acquired firm's failure.

The outcome of litigation attacking a leveraged buyout as a fraudulent transfer will generally turn on the financial condition of the target at the time of the transaction – that is, whether the risk of failure was substantial and known at the time of the LBO, or whether subsequent unforeseeable events led to the failure. The analysis historically depended on "dueling" expert witnesses and was notoriously subjective, expensive, and unpredictable. However, courts are increasingly turning toward more objective, market-based measures.

In addition, the Bankruptcy Code includes a so-called "safe harbor" provision, preventing bankruptcy trustees from recovering settlement payments to the bought-out shareholders. In 2009, the U.S. Court of Appeals for the Sixth Circuit held that such settlement payments could not be avoided, irrespective of whether they occurred in an LBO of a public or private company. To the extent that public shareholders are protected, insiders and secured lenders become the primary targets of fraudulent transfer actions.

Banks have reacted to failed LBOs by requiring a lower debt-to-equity ratio, thus increasing the "skin in the game" for the financial sponsor and reducing the debt burden.

Popular References

LBOs form the basis of several cultural works. As mentioned previously, *Barbarians at the Gate: The Fall of RJR Nabisco* and the film adaptation, are based on actual events. A fictional LBO is the basis of the 1963 Japanese film *High and Low*. The process was covered during the 2012 United States presidential election, as Mitt Romney had previously worked in the business for Bain Capital.

Types of Bootstrapping

Sweat Equity

Sweat equity is a party's contribution to a project in the form of effort and toil, as opposed to financial equity such as paying others to perform the task. Sweat equity has an application in business for example where the owners put in effort and toil to build the business, in real estate where owners can do D.I.Y. improvements and increase the value of the real estate and in other areas such as an auto owner putting in their own effort and toil to increase the value of the vehicle.

The term sweat equity explains the fact that value added to someone's own house by unpaid work results in measurable market rate value increase in house price. The more labor applied to the home, and the greater the resultant increase in value, the more sweat equity has been used. The concept of sweat equity was first employed in the United States by the American Friends Service Committee in the Penn Craft self-help housing project beginning in 1937. The AFSC began using the term in the 1950s when helping migrant farmers in California to build their own homes. It is perhaps most popularly associated with a successful model used by Habitat for Humanity, families who would otherwise be unable to purchase a home contribute sweat equity hours to the construction of their own home, the homes of other Habitat for Humanity partner families or by volunteering to assist the organization in other ways. Once living in their new home, the family then make interest-free mortgage payments into a revolving fund which then provides capital to build homes for other families.

More recently sweat equity has been used to describe a party's contribution to a project in the form of effort -- as opposed to financial equity, which is a contribution in the form of capital. In a partnership, some partners may contribute to the firm only capital and others only sweat equity. Similarly, in a startup company formed as a corporation, employees may receive stock or stock options, becoming thus part-owners of the firm, in return for accepting salaries that are below their respective market values (this includes zero wages). The term used to refer to a form of compensation by businesses to their owners or employees.

The term is sometimes used to describe the efforts put into a start-up company by the founders in exchange for ownership shares of the company. This concept, also called "stock for services" and sometimes "equity compensation" or "sweat equity" can also be seen when startup companies use their shares of stock to entice service providers to provide necessary corporate services in exchange for a discount or for deferring service fees until a later date, e.g. "Idea Makers and Idea Brokers in High Technology Entrepreneurship" by Todd L. Juneau et al., Greenwood Press, 2003, which describes equity for service programs involving patent lawyers and securities lawyers who specialize in start-up companies as clients.

Accounts Payable

Accounts payable is money owed by a business to its suppliers shown as a liability on a company's balance sheet. It is distinct from notes payable liabilities, which are debts created by formal legal instrument documents.

An accounts payable is recorded in the Account Payable sub-ledger at the time an invoice is vouched for payment. Vouchered, or vouched, means that an invoice is approved for payment and has been recorded in the General Ledger or AP subledger as an outstanding, or open, liability because it has not been paid. Payables are often categorized as Trade Payables, payables for the purchase of physical goods that are recorded in Inventory, and Expense Payables, payables for the purchase of goods or services that are expensed. Common examples of Expense Payables are advertising, travel, entertainment, office supplies and utilities. *A/P* is a form of credit that suppliers offer to their customers by allowing them to pay for a product or service after it has already been received. Suppliers offer various payment terms for an invoice. Payment terms may include the offer of a cash discount for paying an invoice within a defined number of days. For example, 2%, Net 30 terms mean that the payer will deduct 2% from the invoice if payment is made within 30 days. If the payment is made on Day 31 then the full amount is paid.

In households, accounts payable are ordinarily bills from the electric company, telephone company, cable television or satellite dish service, newspaper subscription, and other such regular services. Householders usually track and pay on a monthly basis by hand using cheques, credit cards or internet banking. In a business, there is usually a much broader range of services in the A/P file, and accountants or bookkeepers usually use accounting software to track the flow of money into this liability account when they receive invoices and out of it when they make payments. Increasingly, large firms are using specialized Accounts Payable automation solutions (commonly called ePayables) to automate the paper and manual elements of processing an organization's invoices.

Commonly, a supplier will ship a product, issue an invoice, and collect payment later, which describes a cash conversion cycle, a period of time during which the supplier has already paid for raw materials but hasn't been paid in return by the final customer.

When the invoice is received by the purchaser, it is matched to the packing slip and purchase order, and if all is in order, the invoice is paid. This is referred to as the three-way match. The three-way match can slow down the payment process, so the method may be modified. For example, three-way matching may be limited solely to large-value invoices, or the matching is automatically approved if the received quantity is within a certain percentage of the amount authorized in the purchase order.

Internal Controls

A variety of checks against abuse are usually present to prevent embezzlement by accounts payable personnel. Segregation of duties is a common control. Nearly all companies have a junior employee process and print a cheque and a senior employee review and sign the cheque. Often, the accounting software will limit each employee to performing only the functions assigned to them, so that there is no way any one employee – even the controller – can singlehandedly make a payment.

Some companies also separate the functions of adding new vendors and entering vouchers. This makes it impossible for an employee to add himself as a vendor and then cut a cheque to himself without colluding with another employee. This file is referred to as the master vendor file. It is the repository of all significant information about the company's suppliers. It is the reference point for accounts payable when it comes to paying invoices.

In addition, most companies require a second signature on cheques whose amount exceeds a specified threshold.

Accounts payable personnel must watch for fraudulent invoices. In the absence of a purchase order system, the first line of defense is the approving manager. However, A/P staff should become familiar with a few common problems, such as "Yellow Pages" ripoffs in which fraudulent operators offer to place an advertisement. The walking-fingers logo has never been trademarked, and there are many different Yellow Pages-style directories, most of which have a small distribution. According to an article in the Winter 2000 American Payroll Association's *Employer Practices*, "Vendors may send documents that look like invoices but in small print they state "this is not a bill." These may be charges for directory listings or advertisements. Recently, some companies have begun sending what appears to be a rebate or refund check; in reality, it is a registration for services that is activated when the document is returned with a signature."

In accounts payable, a simple mistake can cause a large overpayment. A common example involves duplicate invoices. An invoice may be temporarily misplaced or still in the approval status when the vendors calls to inquire into its payment status. After the A/P staff member looks it up and finds it has not been paid, the vendor sends a duplicate invoice; meanwhile the original invoice shows up and gets paid. Then the duplicate invoice arrives and inadvertently gets paid as well, perhaps under a slightly different invoice.

Audits of Accounts Payable

Auditors often focus on the existence of approved invoices, expense reports, and other supporting documentation to support cheques that were cut. The presence of a confirmation or statement from the supplier is reasonable proof of the existence of the account. It is not uncommon for some of this documentation to be lost or misfiled by the time the audit rolls around. An auditor may decide to expand the sample size in such situations.

Auditors typically prepare an aging structure of accounts payable for a better understanding of outstanding debts over certain periods (30, 60, 90 days, etc.). Such structures are helpful in the correct presentation of the balance sheet as of fiscal year end.

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10

Supporting Aspects of Entrepreneurship

A business that solves environmental problems or operates sustainably is termed as ecopreneurship. The concern of this business is not only profit but also the environment. Ecopreneurship implements sustainable product design, which reduces the materials used and also manages waste by recycling and reusing. This chapter explicates the supporting aspects of entrepreneurship.

New Business Development

New business development concerns all the activities involved in realizing new business opportunities, including product or service design, business model design, and marketing. When splitting business development into two parts, we have: 'business' and 'development'. The first things that come into mind when looking at *business* are: economics, finance, managerial activities, competition, prices, marketing, etc. All of these keywords are related to risk and entrepreneurship and clearly indicate the primary scope of the term 'business development'. *Development* is very abstract and can be linked with some of the following keywords: technological improvement, cost reduction, general welfare, improved relations, movement in a (positive) direction, etc.

In the traditional definition of Business development, Business Development is mostly seen as growing an enterprise, with a number of techniques. The mentioned techniques differ, but in fact all of them are about traditional marketing. The main question in these issues is: how to find, reach and approach customers and how to make/keep them satisfied, possibly with new products. (Kotler, 2006) Since this definition is limited and lacks some essential factors in business developing, a complete new definition of Business Development will be introduced. Of course, the theory on "traditional" marketing is still correct and can be adopted from the old definition. When supplying a solution, it is important to focus on the total offering you give instead of only focusing on the product or service. An offering is a package consisting of different proportions of physical product, service, advice, delivery and the costs, including price that are involved in using it. Hereby the advice, adaptation to the customer and the costs are the most important factors to get the right combination within the offering. (Ford et al., 2006; Hakansson et al., 2004) Drawing on contingency theory, an idea central to new business development is that different product-market- technology combinations can require different marketing strategies and business models to make them a success (Tidd et al., 2005). To chart the factors that are involved and create synergy between them, new business development draws heavily upon the fields of technology and business networks. The new business development process is to recognize chances and opportunities in a fast changing technological environment. Often uncertainty arises because of new technology and their new markets.

Technology

Innovative technology provide important opportunities for new business development. For a company it is important to keep products and processes up to date, to stay competitive (Ford et al., 2006). Continuous investment in innovation for both products and processes makes it more difficult for others to offer a large technological functionality advantage (Schilling, 2003). Many companies need technological development to stay competitive. Technological development can occur through making decisions about acquiring, exploiting and managing technologies. These decisions should be made by involving the research and development staff, purchasing staff and marketers. (Ford et al., 2006) The customers are also important (Schilling, 2003; Ford et al., 2006).

Furthermore technology can be analyzed by the concept/framework of value configuration as introduced by Stabell Fjedstad (1998). The framework consists of three value configurations, which are an extension of the value chain model by Porter: the value chain (transformation of inputs in products), the value shop (solving customer problems) and the value network (linking customers). These configurations overcome some of the issues with the traditional value chain model, which is only helpful for traditional manufacturing companies. In practice firms are not pure instances of a single distinct value configuration, multiple combinations of configurations can be found within one firm (Stabell & Fjeldstad 1998).

The value creation process can also be understood from the perspective of Schilling. Schilling talks about value in the sense of technological functionality, installed base and complementary goods of a product. (Schilling, 2003). It may be clear that technology plays an important role in this value creation process, and in general contributes to the process of renewing the match between problem and solution.

Business Networks

Traditional marketing is usually based on economic models (Williamson, 1975). In those pure economic models there is no room for negotiations or special treatment for different companies. A technological environment, however, can be very uncertain and therefore competitors have to rely heavily on their business networks. It is then that special treatments and negotiations are necessary.

It is important to recognize the effect social relations have on economic action, including business development (Ford et al., 2006). Granovetter also argues that social relations in a network lead to trust between partners, an important factor for stable development in a dynamic environment. By focusing on these new activities, it becomes difficult to keep every activity up-to-date and to maintain the competitive advantage (Ford et al., 2006). Companies therefore increasingly concentrate their investment and their activities on only a few activities which they believe to be their core business, otherwise their competitive advantage is easily lost. Because they concentrate on just a few activities, they need business relations for the other activities (Ford et al., 2006).

Relationships are usually based on resource ties, activity links and/or actor bonds (Ford et al., 2006). A company should therefore analyze their firm itself, their relationships and their business networks in terms of activities, actors and resources. In this way, a company can determine where

there are new opportunities for relationships and where resources, technologies and/or skills can be developed, integrated or exploited from other companies (Ford et al., 2006). In this way, business development can be established with help of this business network.

Nowadays, marketing is about the exchange of heterogeneous resources between dynamic, cooperating partners in network-like structures (Hakansson et al., 2004). It is about relationships, not about selling products. So, business marketers should be busy finding, developing and managing of relationships within the complex network that surrounds them (Ford et al., 2006). Blois (2004) provides three ways in which a firm can evolve from market to network mechanism. These are entrepreneurial alertness (being alert to value-creating opportunities), path dependence (historical events cause solutions to problems and become "locked in") and replaceability (irreplaceable contributors get much attention of others trying to influence them).

It is still questionable to what extent these networks are involved by social relations, since the mentioned authors don't agree on this. Therefore, enterprises have to cope with the problem of how to maintain their network contacts.

Ecopreneurship

Ecopreneurship is a term coined to represent the process of principles of entrepreneurship being applied to create businesses that solve environmental problems or operate sustainably. The term began to be widely used in the 1990s, and it is otherwise referred to as "environmental entrepreneurship." In the book Merging Economic and Environmental Concerns Through Ecopreneurship, written by Gwyn Schuyler in 1998, ecopreneurs are defined as follows:

"*Ecopreneurs are entrepreneurs whose business efforts are not only driven by profit, but also by a concern for the environment. Ecopreneurship, also known as environmental entrepreneurship and eco-capitalism, is becoming more widespread as a new market-based approach to identifying opportunities for improving environmental quality and capitalizing upon them in the private sector for profit.* "

Although ecopreneurship initiatives can span a wide range of issues from ocean pollution to recycling to food waste, they tend to follow reoccurring environmental principles such as systems thinking, cradle to cradle product design, triple bottom line accounting, etc.

Systems Thinking

Systems Thinking is a core principle to any business concerned with sustainability and the environment. It is an approach to problem solving that studies how something interacts with its environment as a whole, whether that be social, economic or natural. This is in contrast to a linear thinking model, which would isolate a problem and study only its directly related processes to find solutions. It consists of the notion that in order to understand vertical problems (looking deeply at one particular issue), you must understand and evaluate the horizontal environment as a whole (the entire system and its interrelated functions). As it pertains to business is best illustrated in the book Entrepreneurship and Sustainability by Andrea Larsen,

"Systems thinking applied to new ventures reminds us that companies operate in complex sets of interlocking living and non-living, including markets and supply chains as well as non-living systems.... Taking a systems perspective reminds us that we are accustomed to thinking of business in terms of discrete units with clear boundaries between them. We forget that these boundaries exist primarily in our minds or as legal constructs."

Product Design

A lot of companies using ecopreneurship principles incorporate sustainable product design. Product design incorporating sustainability can happen at any stage of the business, including material extraction, logistics, the manufacturing process, disposal, etc. Sustainable product design can be achieved using innovative technology (or Eco-innovation), cradle to cradle design, bio-mimicry, etc. In a description by the government of Canada's department on Innovation, Science and Economic Development, sustainable product design is further explained:

"Product design offers the opportunity to incorporate green and socially responsible attributes into a product. Referred to as Design for Sustainability (D4S), it is a process that addresses environmental and social considerations in the earliest stages of the product development process to minimize negative environmental and social impacts throughout the product's life cycle and to comply with the principles of economic, social and ecological sustainability.

Sustainable product design can encompass the selection of materials, use of resources, production requirements and planning for the final disposition (recycling, reuse, remanufacturing, or disposal) of a product. It takes into account the socio-economic circumstances of the company and the opportunity for the firm to address social problems associated with poverty, safety, inequity, health and the working environment. It is not a stand-alone methodology but one that must be integrated with a company's existing product design so that environmental and social parameters can be integrated with traditional product attributes such as quality, cost, and functionality."

Some examples of ways to implement sustainable product design include:

- streamline design - use fewer materials, find sustainable material substitutes
- procure materials sustainability - choose resources whose extraction is not harmful to the surrounding environment and use the most Eco-friendly extraction methods
- reduce materials - reducing material weight or transportation volume
- optimize production - use production techniques with as little as possible harmful environmental side effects like toxic chemical release, reduce waste and emissions
- improve distribution - use less or reusable packaging, transport and distribute products more efficiently
- cut impact - reduce energy consumption, use cleaner energy sources like solar panels or wind power.
- prolong life - improve durability and reliability of product, offer repair services, re-purpose

broken or unused products

- manage waste - implement recycling or reuse programs, up-cycle product, dispose of safely

Innovative Technology

Many companies practicing ecopreneurship attempt to solve environmental issues either by developing new technology or innovating already existing technologies. The most widespread examples of this are the creation of solar panels and hybrid cars in order to decrease dependency on fossil fuels. Countless other examples from anaerobic digestion food waste systems to portable air purifiers exist. The competitive advantage or core competency for ecopreneurship companies is oftentimes related to a technology they have developed. More examples of companies using innovative technology are below in Business Examples.

Cradle to Cradle Design

Cradle-to-cradle design is popular environmental approach to product design that seeks to eliminate waste by designing products that can be continuously recirculated through our economy. This is contrasted against a "cradle to grave" design which typically includes single use products or products made of multiple different materials that cannot be separated in order to be recycled properly. Cradle to Cradle design is mimicked after processes in the natural environment which do not create waste but instead every output is an input for another organism. Cradle to Cradle design is often achieved through using environmentally friendly resources (non-toxic) that can either be recycled into other products or composted. Another important component of cradle to cradle design is the ability to easily take products apart for better reuse as well as designing with durability in mind. This idea was popularized by the 2002 book Cradle to Cradle: Remaking the Way We Make Things written by William McDonough and Michael Braungart.

Bio-Mimicry

Bio-mimicry (or Biomimetics) is a term created by American biophysicist Otto Schmitt that refers to recreating the solutions for problems found in nature. A definition provided by the Institute for Biomimicry (a non-profit organization) is as follows:

"Biomimicry is an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time tested patterns and strategies."

Some examples include studying the building of sand mounds by ants in order to create lower cost air circulation for buildings and trains with curved fronts mimicking the beaks of birds to increase speed. Other examples can be found in Janine Benyus' Ted Talk on biomimicry.

Triple Bottom Line Accounting

Triple bottom line Accounting is an accounting method that combines traditional accounting methods of measuring profit with those that measure social and environmental benefits as well. The phrase was created by John Elkington in 1994 at his company SustainAbility. Some criticisms have sprung up over what methods are to be used to measure environmental and social impacts.

Legal Forms

Ecopreneurs may decide to develop their company under traditional business legal forms like a sole proprietorship or an LLC or they might chose some newer forms discussed below. These business forms are popular among the environmentally conscious community for their emphasis on social benefit.

- Low-profit limited liability company or (L3C) is a company that follows the same legal and tax codes as a traditional LLC but has a main goal of increasing social welfare like that of a non-profit organization. This form of business is not available in every state of the USA as of 2013.
- Benefit corporation is for-profit legal entity that differs in its purpose and accountability from that of a regular corporation. Its emphasis on mission-driven purpose allows it a different accountability to stakeholders. This form of business is not available in every state of the USA as of 2013. More information can be found on the official website benefitcorp.net

Business Examples

- Patagonia
- Clif Bars
- PaveGen
- Tesla
- TerraCycle
- Solatube paneling
- Velux
- EcoTools
- Acme Kleenearth
- SafeChoice cleaning supplies
- BioKleen
- Greenington furniture
- Seventh Generation
- Axion
- LunchBots
- Prometheus Energy
- Southwest Windpower
- Teko socks
- CoalTek

- GreenFuel Technologies
- Nanosolar
- Energy Innovations
- GridPoint
- Nest
- SolarCity
- Aquion Energy
- Vestas

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11

Various Types of Entrepreneurs in Entrepreneurship

Entrepreneurs can best be understood in confluence with the major topics listed in the following chapter. Entrepreneurs manage enterprises and run their own businesses. The major types of entrepreneurs dealt within this chapter are creative entrepreneurs, fashion entrepreneur, female entrepreneur, intrapreneurship, etc. This chapter is a compilation of the various branches of entrepreneurship that form an integral part of the broader subject matter.

Creative Entrepreneurs

Creative Entrepreneurs is a UK-based online and event platform providing resources for people starting up and growing creative businesses. The Creative Entrepreneurs website collects and organises business resources which can be searched by type and by specific creative sector. The website also provides magazine-like content including interviews with leading creative entrepreneurs and industry experts, such as investors and business advisors. Additionally, Creative Entrepreneurs host events to support entrepreneurship in the UK creative sector.

Creative Entrepreneurs was launched in January 2016 at No. 10 Downing Street with four ambassadors: Anya Hindmarch, Jamal Edwards, the late Zaha Hadid and Rohan Silva. Its founder is former Time Warner executive Carolyn Dailey.

On its launch, Prime Minister David Cameron referred to the platform as “the first of its kind”.

Fashion Entrepreneur

A fashion entrepreneur is a person who has possession of a fashion enterprise, venture or idea, and assumes significant accountability for the inherent risks and outcome.

Definition

Originating from the phrase entrepreneur, a fashion entrepreneur is someone whose primary activities work within the fashion industry. For example, a fashion designer who uses entrepreneurial principles to organize, create, and manage ventures within related and connected areas of the fashion industry. Fashion ventures include guide books for fashion designers

Current Practice

Fashion entrepreneurs focus on creating networks within the fashion industry and inter-connect-

ed projects with varying aims including education, profitability and profile-building. Some fashion entrepreneurs work to provide a network of knowledge share platforms, other work to address social and structural issues goals.

Core business practices for fashion entrepreneurs focus on topics such as creativity and innovation, writing business plans, raising finance, sales and marketing, and the small business management skills needed to run a creative company. Fashion entrepreneurs seek to deliver fashion business expertise in retail, manufacturing, money and marketing. The 21st century has seen the proliferation of organisations and award ceremonies promoting, inspiring and challenging online entrepreneurship by highlighting the enterprising attributes, creativity, innovation and the success of today's entrepreneurs along with the desire of giving back to the society.

Female Entrepreneur

Oprah Winfrey at 2011 TCA

Female entrepreneurs, also known as women entrepreneurs, encompass approximately 1/3 of all entrepreneurs worldwide.

History

Before the 20th century, women operated businesses as a way of supplementing income. In many cases, they were trying to avoid poverty or were replacing the income from the loss of a spouse. At that time, the ventures that these women undertook were not thought of as entrepreneurial. Many of them had to bow to their domestic responsibilities. The term entrepreneur is used to describe individuals who have ideas for products, and/or services that they turn into a working business. In earlier times, this term was reserved for men.

Women became more involved in the business world only when the idea of women in business

became palatable to the general public; however, this does not mean that there were no female entrepreneurs until that time. In the 17th century, Dutch colonists who came to what is now known as New York City, operated under a matriarchal society. In this society, many women inherited money and lands, and through this inheritance, became business owners. One of the most successful women from this time was Margaret Hardenbrook Philipse, who was a merchant, a ship owner, and was involved in the trading of goods.

During the mid 18th century, it was popular for women to own certain businesses like brothels, alehouses, taverns, and retail shops. Most of these businesses were not perceived with good reputations; because, it was considered shameful for women to be in these positions. Society frowned upon women involved in such businesses; because, they detracted from the women's supposed gentle and frail nature. During the 18th and 19th centuries, more women came out from under the oppression of society's limits, and began to emerge into the public eye. Despite the disapproval of society, women such as Rebecca Lukens flourished. In 1825, Lukens took her family business of Iron works, and turned it into a profit-generating steel business.

In the 1900s, due to a more progressive way of thinking, and the rise of feminism, female entrepreneurs began to be a widely accepted term. Although these women entrepreneurs serviced mostly women consumers, they were making great strides. Women gained the right to vote in 1920, and two years later, Clara and Lillian Westropp started the institution of Women's Savings & Loan as a way of teaching women how to be smart with their money. As society progressed, female entrepreneurs became more influential. With the boom of the textile industry and the development of the railroad and telegraph system, women such as Madame C. J. Walker took advantage of the changing times. Walker was able to market her hair care products in a successful way, becoming the first African American female millionaire. Carrie Crawford Smith was the owner of an employment agency opened in 1918, and like Madame C. J. Walker, sought to provide help to many women by giving them opportunities to work.

During the Great Depression, some of the opportunities afforded to women took a backseat and society seemed to reverse its views, reverting to more traditional roles. This affected women working in business; however, it also served as a push to those involved in the entrepreneurial world. More women began to start their own businesses, looking to survive during this time of hardship. In 1938, Hattie Moseley Austin, who had begun to sell chicken and biscuits after her husband died, opened Hattie's Chicken Shack in Saratoga Springs, NY.

During WWII, many women entered the workforce, filling jobs that men had left behind to serve in the military. Some women, of their own accord, took these jobs as a patriotic duty while others started businesses of their own. One of these women was Pauline Trigere, who came to New York from Paris in 1937, started a tailoring business that later turned into a high-end fashion house. Another woman was Estée Lauder, who was working on the idea for her beauty products which officially launched in 1946, a year after the war ended. When the war ended, many women still had to maintain their place in the business world; because, many of the men who returned were injured.

The Federation of Business and Professional Women's Clubs were sources of encouragement to women entrepreneurs. They often would hold workshops with already established entrepreneurs, osuch as Elizabeth Arden, who would give advice. During the 1950s, women found themselves surrounded by messages everywhere, stating what their role should be. Domesticity was the overall

public concern and a theme that was highly stressed during this time, and women had to juggle combined home responsibilities and their career.

Home-based businesses helped to solve a good part of the problem for those women who worried about being mothers. Lillian Vernon, while pregnant with her first child, started her own business dealing with catalogs by investing money from wedding gifts and started filling orders right at her kitchen table. Mary Crowley founded Home Decorating and Interiors as a way of helping women to work from home by throwing parties to sell the products right in the comfort of their own home. In an effort to avoid criticism and lost business from those who did not support women in business, Bette Nesmith, who developed the product "Mistake Out," a liquid that painted over mistakes in typing, would sign her orders B. Smith so no one would know she was a female.

From the 1960s to the late 1970s, another change came about when divorce rates rose and many women were forced back into the role of being the sole provider. This pushed them back into the working world, where they were not well received. When the recession hit, many of these women were the first to be without work. Once again, the entrepreneurial endeavors of women came to the rescue as an effort of asserting themselves, and aiding other women in being a part of the workforce. Mary Kay Ash and Ruth Fertel of Ruth's Chris Steak House were part of that movement.

The 1980s and 1990s were a time of reaping the benefits from the hard work of women who worked tirelessly for their rightful place in the workforce as employees and entrepreneurs. Martha Stewart and Vera Bradley were among the twenty-first percent women who owned businesses. The public was also becoming more receptive and encouraging to these women entrepreneurs, acknowledging the valuable contribution they were making to the economy. The National Association of Women Business Owners helped to push Congress to pass the *Women's Business Ownership Act* in 1988, which would end discrimination in lending and also strike down laws that required married women to acquire their husband's signature for all loans. In addition, the Act also gave women-owned businesses a chance to compete for government contracts.

Another monumental moment for women in business was the appointment of Susan Engeleiter as head of the Small Business Administration in 1989. In the late 1980s and throughout the 1990s, there was more of a focus on networking opportunities in the world of female entrepreneurs. There were many opportunities that came about to help those who were interested in starting up their own businesses. Support groups, organizations for educating the female entrepreneur, and other opportunities like seminars and help with financing came from many different sources, such as the Women's Business Development Center and Count Me In. Despite all these advances, the female entrepreneurs still fell behind when compared to their male counterparts.

As the 1990s came in, the availability of computers and the increasing popularity of the internet gave a much needed boost to women in business. This technology allowed them to be more prevalent in the business world and showcase their skills to their competitors. Even with the increased popularity of women in business, the availability of technology and the support from different organizations, female entrepreneurs today are still struggling. The economic downturn of 2008 did not serve to help them in their quest. However, with the continual attention given to female entrepreneurs and the educational programs afforded to women who seek to start out with their own business ventures, there is much information and help available. Since 2000, there has been an increase in small and big ventures by women, including one of their biggest obstacles—financing.

Demographics

Studies have shown that successful women entrepreneurs start their businesses as a second or third profession. Because of their previous careers, women entrepreneurs enter the business world later on in life, around 40–60 years old. According to the Global Entrepreneurship Monitor report, "women are nearly one-third more likely to start businesses out of necessity than men." Because women are overtaking their male peers in the level of education obtained, having higher education degrees is one of the significant characteristics that many successful female entrepreneurs have in common. The average self-employment rate for women under 25 years old in OECD countries is 7.2%.

The number of self-employed women has steadily increased over the past three decades, putting them at an approximate thirty-three percent increase. Many female-owned businesses continue to be home-based operations. These types of businesses usually have limited revenue with about eighty percent of them making less than $50,000 in 2002. This group made up for about six percent of total women-owned businesses. Children of these female entrepreneurs are expected to boost that number as they contribute to the growing amount of female entrepreneurs. Most women-owned businesses are in wholesale, retail trade, and manufacturing. Female entrepreneurs have also made a name for themselves in professional, scientific, and technical services, as well as in healthcare and social assistance. In the majority of OECD countries, female entrepreneurs are more likely to work in the services industry than their male counterparts.

In 1972, women-owned businesses accounted for 4.6 percent of all U.S. businesses—that was about 1.5 million self-employed women. That number increased to 2.1 million in 1979 and 3.5 million in 1984. In 1997, there were about 5.4 million women-owned businesses and in 2007, that number increased to 7.8 million. The participation of females in entrepreneurial activities does of course vary in different levels around the world. For example, in Pakistan, women entrepreneurs account for only 1% of this gender's population, while in Zambia 40% of women are engaged in this activity. The highest number of females involved in entrepreneurial activities can be seen in Sub-Saharan Africa, with 27% of the female population. Latin America/Caribbean economies show comparatively high percentages as well (15%). The lower numbers are seen in the MENA/Mid-Asia region with entrepreneurial activities registering at 4%. Developed Europe and Asia, as well as Israel, also show low rates of 5%.

International Implications

A recent international study found that women from low to middle income countries (such as Russia and the Philippines) are more likely to enter early stage entrepreneurship when compared to those of higher income countries (such as Belgium, Sweden, and Australia). A significant factor that may play a role in this disparity can be attributed to the fact that women from low income countries often seek an additional means of income to support themselves and their families. Overall, 40 to 50 percent of all small businesses are owned by women in developing countries. Alternatively, this may also be due to the fact that, in western business practices, it is not seen as beneficial to exhibit perceived feminine traits. While eastern businesses tend to follow methods based around mutual respect and understanding, western business' expectations are for business leaders to be more ruthless, headstrong, and less sensitive or respectful.

"In the grab for power, women use whatever means available to them, whereas a man would take a club to his opponents head, a woman is more likely use other less forceful and more subversive measures. Let's just own it, we have different weapons in our arsenal." Female entrepreneurs make up for approximately 1/3 of all entrepreneurs globally. According to one study, in 2012 there was an approximate 126 million women that were either starting or already running new businesses in various economies all over the world. As far as those who were already established, there was an approximate 98 million. Not only are these women running or starting their own businesses but they are also employing others, so that they are participating in the growth of their respective economies.

A study in India entitled "Barriers of Women Entrepreneurs: A Study in Bangalore Urban District", has concluded that despite all these constraints, successful women entrepreneurs do exist. Women entrepreneurs have evidently more to 'acquire' than their male counterparts. But, the socio-cultural environment in which women are born and raised hinders them. Social customs, caste restrictions, culture restraints, and norms leave women lagging behind men.

Present Challenges

Even though female entrepreneurship and the formation of women business networks is steadily rising, there are a number of challenges and obstacles that female entrepreneurs face. One major challenge that many women entrepreneurs face is the effect that the traditional gender-roles society may still have on women. Entrepreneurship is still considered as a male-dominated field, and it may be difficult to surpass these conventional views. Other than dealing with the dominant stereotype, women entrepreneurs are facing several obstacles related to their businesses.

Obstacles Specific to Starting New Firms

External Finance and Sex Discrimination.

In general, women have lower personal financial assets than men. This means that for a given opportunity and equally capable individual, women must secure additional resources compared to men in order to exploit the opportunity; because, they control less capital. A question that has developed into its own sub-field in women's entrepreneurship literature is whether women have a harder time getting finance than men for the same business opportunity. One possible issue in raising outside capital is that 96% of senior venture capitalists are men and may not be as understanding of female-centric businesses. However, the situation seems to be improving. A study by Babson College showed that in 1999, fewer than 5% of venture capital investments went to companies with a woman on the executive team. In 2011, it was 9% and in 2013 it had jumped to 18%.

A specific solution for solving women's difficulties for obtaining financing has been micro-financing. Microfinance is a financial institution that has become exceptionally popular, especially in developing economies. Women entrepreneurs have also been especially successful in getting funded through crowdfunding platforms like Kickstarter.

Obstacles Specific to Managing a Small Firm

Studies on women entrepreneurs show that women have to cope with stereotypical attitudes towards them on a daily basis. Business relations—from customers to suppliers and banks—constantly re-

mind the entrepreneur that she is different, sometimes in a positive way such as by praising her for being a successful entrepreneur even though she is a woman. Employees tend to mix the perceptions of the manager with their images of female role models, leading to mixed expectations on the woman manager to be a manager as well as a "mother". The workload associated with being a small business manager is also not easily combined with taking care of children and a family. However, even if the revenues are somewhat smaller, women entrepreneurs feel more in control and happier with their situation than if they worked as an employee. Female entrepreneurship has been recognized as an important source of economic growth. Women entrepreneurs create new jobs for themselves and others and also provide society with different solutions to management, organisation, and business problems. However, they still represent a minority of all entrepreneurs. Women entrepreneurs often face gender-based barriers to starting and growing their businesses, like discriminatory property; matrimonial and inheritance laws, and/or cultural practices; lack of access to formal finance mechanisms; limited mobility and access to information and networks, etc.

Women's entrepreneurship can make a particularly strong contribution to the economic well-being of the family and communities, poverty reduction and women's empowerment, thus contributing to the Millennium Development Goals (MDGs). Thus, governments across the world, as well as various developmental organizations, are actively undertaking the promotion of women entrepreneurs through various schemes, incentives and promotional measures.

Women entrepreneurs in the four southern states and Maharashtra account for over 50% of all women-led small-scale industrial units in India.

Obstacles Specific to Growing Firms

A specific problem of women entrepreneurs seems to be their inability to achieve growth, especially sales growth. Another issue is finance and, as stated previously, the entrepreneurial process is somewhat dependent on initial conditions. In other words, as women often have a difficult time assembling external resources, they start as less ambitious firms that can be financed to a greater degree by their own available resources. This also has consequences for the future growth of the firm. Basically, firms with more resources at start-up have a higher probability to grow than firms with fewer resources. Resources include the following: societal position, human resources, and financial resources. This initial endowment in the firm is of great importance for firm survival and especially for firm growth.

A study by the Kauffman Foundation of 570 high-tech firms started in 2004 showed that women-owned firms were more likely to be organized as sole proprietorships, both during their start-up year and in the years to follow. Women entrepreneurs were also much more likely to start their firms out of their homes and were less likely to have employees. This fact may serve as an indication that women either anticipated having smaller firms or were operating under resource constraints that did not allow them to launch firms requiring more assets, employees, or financial resources. This study also found that women only raised 70% of the amount that men raised to start their firms, which ultimately impacted their ability to introduce new products and services or expand their business in terms of employees or geographic locations.

Despite the fact that many women entrepreneurs face growth barriers, they are still able to achieve substantial firm growth. There are examples of these both in a number of developing economies

(Ethiopia, Tanzania, and Zambia) surveyed by the ILO, as well as in more developed economies such as the United States.

Encouragement of Women Entrepreneurs

In 1993, "Take Our Daughters To Work Day" was popularized to support career exploration for girls, and later expanded to Take Our Daughters and Sons to Work Day.

"Investing in women is not only the right thing to do, but also the smart thing to do." (Hillary Clinton from unfoundation.org) Research shows that there are many support groups for women in business, for female entrepreneurs, and for women looking for business advice. Women in different areas are willing to show the support that in some cases, they never had. They offer encouragement, advice, and support to moms who seek to provide for their families through their own visions for business. HerCorner, http://www.hercorner.org is a group located in Washington, D.C. This groups seeks to bring women business owners together to collaborate with each other for the betterment of their businesses. There are government backed programs available to female entrepreneurs and information can be found on their website at http://www.sba.gov/about-offices-content/1/2895 and their Facebook group https://www.facebook.com/SBAgov?ref=br_tf. Female-only taxi companies in India, the UAE, and Brazil support working women. One example of successful women entrepreneurs in rural villages of Bangladesh is the Infolady Social Entrepreneurship Programme (ISEP).

Reasons for Becoming a Female Entrepreneur

Many studies show that women start their own businesses for a variety of reasons. These reasons include the following: having an idea for a business plan, having passion for solving a specifically related career problem, wanting to be more in control of their careers, maintaining a more balanced life, having a flexible work schedule, and taking a personal vision and turning it into a lucrative business. Along with the intense desire to see their vision carried out, these women also have a great ability to multi-task and are not fearful of the risks involved in being self-employed. Women are still facing many issues in the workforce, and being their own boss certainly is more appealing to some of the everyday issues they face outside of entrepreneurship. Gender roles are still very much a part of their lives, but for some female entrepreneurs, they feel more in control when working for themselves.

Internal Entrepreneur

An internal entrepreneur is a type of entrepreneur who operates inside the confines of an organisation such as a business unit or a government body.

What is an Internal Entrepreneur

An internal entrepreneur is known as an intrapreneur (makes part of intrapreneurship) and is defined as "a person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk-taking and innovation". They are usually

very motivated, with a high drive towards completing the job at a fast pace with efficience (action-oriented) who are comfortable with taking the initiative, regardless of the boundaries that the organisation or the entrepreneurial world imposes over them, they are in a constant pursuit of an innovative product or service. Their behaviour can be characterised through the ability of thinking outside the box which includes smart and clear minded risk-taking with an emphasis on leadership, these traits combined are also what make a successful entrepreneur.

"Intrapreneurship" in Practice

Forbes Insights studies state that internal entrepreneurs comprise approximately one in every six executives in Europe. They tend to be innovators with unique ideas and a mind set towards the creation of original and unique plans for the prosperity of the company. The complicated task of an internal entrepreneur is pushing the idea to corporate bureaucracy which is proven to be an environment which lacks hospitality for new ideas; however, "intrapreneurs" are trying to bring the company to fruition through this.

The main difference between an internal entrepreneur (intrapreneur) and an entrepreneur is the environment, which represents the sphere in which they work. An entrepreneur's aim in general terms is to create a successful organisation, while an internal entrepreneur on the other hand has to find solutions to existing problems within the company and provide improvements for the benefit of the existing organisation. Another significant difference factor is the risk, intrapreneurs aren't responsible for the fate of the company at the same level as entrepreneurs do and usually work within a safe environment with guaranteed payment. Due to this fact, even in case of success they rarely get any additional benefits or additions but companies that support innovation tend to include additional bonuses. However, internal entrepreneurs tend to manifest themselves as the owners of the business, this makes them believe in their own influence and the fact that they are doing it in their own interests instead of the company's. This results in productiveness and huge efficiency during work.

Internal intrepreneurs can be characterised through a large variety of skills and competencies that set them apart from the rest of the organisation. Typically they do not resemble the standard employee; however, they oftentimes result in being overlooked because the management branch might think that they're trying to get ahead or promoted. Several studies show that only a small percentage of employees are actually doing what they are supposed to do according to their duty, mostly engaged remain the individuals who possess "intrepreneurship" skills and work efficiently. A significant portion of current entrepreneurs were once internal entrepreneurs who weren't satisfied with their work or the limits put on innovation. Companies start to accommodate to the idea of internal entrepreneurs as they understand that it is in their own benefit to have prosperous minds. This resulted in Chief Executive Officers across various large organisation to have Innovation departments led by Chief Innovation Officer. In the past 10 years, this trend has been continuously growing, mainly due to business researches and successful examples from practice. Currently the majority of consulting companies and law firms have innovation offices in practice.

According to statistics, companies of all sizes have a similar proportion of internal entrepreneurs:

- 12% intrapreneurs in organisations with 10-49 employees
- 25% intrapreneurs in organisations with 500-999 employees

- 20% intrapreneurs in organisation with the revenue of $100+ million.

Traits of Internal Entrepreneurs

Internal entrepreneurs represent a vital part of any organisation and make it flourish, even though there's a wide range of them there's specific characteristics that make them alike because they think and behave like owners; they represent an integral element of a company's wealth. Even though one of main things that drives "intrepreneurs" is passion towards a subject or area that they're very knowledgeble about due to interest, there are some other key traits that influence them:

- Money Is Not the Measurement - their determination is not driven by the money, payment is a sign that they are doing their job well; however, they are mainly motivated by influence with freedom.
- Strategic Scanning - constant curiosity is what makes an internal entrepreneur stand out, they keep learning new things and applying them within their area of knowledge which benefits both themselves and the organisation.
- Greenhousing - people are not open to new and radical ideas, therefore internal entrepreneurs upon coming up with a new idea tend to keep it and let it flourish in their mind so when the right time comes, they can share it with the rest.
- Visual Thinking - they don't act on an idea or solution immediately, they weigh the pros and cons, try to come up with more solutions. They have to go through a branin storming, mind mapping and designing process to achieve what they need.
- Pivoting - stands for shifting radically from the current strategic method of a business and it is one of the key characteristics of any internal entrepreneur. This means that they are open for change if it is in the benefit of the company, be it in long or short run.
- Authenticity and Integrity - internal entrepreneurs are familiar with both confidence and humility, their wide aspect and range of understanding allows them to act efficiently, makes them smart risk-takers.

Examples

Sony: Ken Kutaragi, in the position of a junior employee at Sony used to spend his free time with his daughters in order to improve the Nintendo device. Regardless of the fact that the staff at Sony were against his work, Ken was lucky enough to get a senior employee's attention. This resulted in the beginning and creation one of the Sony's most valued products at the market right now, Sony PlayStation. At the moment PlayStation is one of the leaders in gaming industry, being one of the best selling consolses - it's a clear result of success and innovation from "intrapreneurship".

3M: Dr. Spencer Silver was trying to create a strong adhesive with the aim of using it in aerospace technology. His research proved to be unsuccessful as he accidentally created a light adhesive that would stick to surfaces without leaving any trace after removal. This is an example of strategic scanning where instead of getting rid of the idea, he decided to keep working on it and improving it further for other uses. After years of trying to push the idea forwards, he joined forces with Art Fry (a fellow scientist at 3M), together they came with the idea of Post-IT notes which are actively used until now.

Intrapreneurship

Intrapreneurship is the act of behaving like an entrepreneur while working within a large organization. Intrapreneurship is known as the practice of a corporate management style that integrates risk-taking and innovation approaches, as well as the reward and motivational techniques, that are more traditionally thought of as being the province of entrepreneurship

Definition

Pinchot (1984) defined intrapreneurs as "dreamers who do. Those who take hands-on responsibility for creating innovation of any kind, within a business". In 1992, *The American Heritage Dictionary* acknowledged the popular use of a new word, intrapreneur, to mean "A person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk-taking and innovation". Koch (2014) goes further, claiming that intrapreneurs are the "secret weapon" of the business world. Based on these definitions, being an intrapreneur is considered to be beneficial for both intrapreneurs and large organisations. Companies support intrapreneurs with finance and access to corporate resources, while intrapreneurs create innovation for companies.

History

The first written use of the terms 'intrapreneur', 'intrapreneuring,' and 'intrapreneurship' date from a paper written in 1978 by Gifford Pinchot III and Elizabeth Pinchot. Later the term was credited to Gifford Pinchot III by Norman Macrae in the April 17, 1982 issue of *The Economist*. The first formal academic case study of corporate entrepreneurship or intrapreneurship was published in June 1982, as a Master's in Management thesis, by Howard Edward Haller, on the intrapreneurial creation of PR1ME Leasing within PR1ME Computer Inc. (from 1977 to 1981). This academic research was later published as a case study by VDM Verlag as *Intrapreneurship Success:A PR1ME Example*. *The American Heritage Dictionary of the English Language* included the term 'intrapreneur' in its 3rd 1992 Edition, and also credited Pinchot as the originator of the concept. The term "intrapreneurship" was used in the popular media first in February 1985 by *TIME* magazine article "Here come the Intrapreneurs" and then the same year in another major popular publication was in a quote by Steve Jobs, Apple Computer's Chairman, in an interview in the September 1985 *Newsweek* article, which quotes him as saying, "The Macintosh team was what is commonly known as intrapreneurship;only a few years before the term was coined—a group of people going, in essence, back to the garage, but in a large company."

Employee Intrapreneur

"Intrapreneurship refers to employee initiatives in organizations to undertake something new, without being asked to do so." Hence, the *intrapreneur* focuses on innovation and creativity, and transforms an idea into a profitable venture, while operating within the organizational environment. Thus, intrapreneurs are *Inside entrepreneurs* who follow the goal of the organization. In-

trapreneurship is an example of motivation through job design, either formally or informally. Employees, such as marketing executives or perhaps those engaged in a special project within a larger firm, are encouraged to behave as entrepreneurs, even though they have the resources, capabilities and security of the larger firm to draw upon. Capturing a little of the dynamic nature of entrepreneurial management (trying things until successful, learning from failures, attempting to conserve resources, etc.) adds to the potential of an otherwise static organization, without exposing those employees to the risks or accountability normally associated with entrepreneurial failure.

Another characteristic of intrapreneurs is their courage and flexibility to think outside of the box, which allows them to work on ideas that may change strategic direction. Even though many managers are afraid of radical changes, they are often the only way to help companies grow. This is exemplified by Wipro in India, a small vegetable company that ended up being a software outsourcing powerhouse. Another example is Tony Hsieh of Zappos, who started as a commercial footwear vendor and became the CEO of Zappos, which has expanded into an online customer experience company.

According to Pinchot, intrapreneurs are both employees and leaders of a large organizations that act similar to entrepreneurs in terms of e.g. self-motivation, creativity and pro-activity. Pinchot claims that while intrapreneurs must be leaders, they differ very much from managers. Strong leadership skills are needed to strengthen teams and to persuade others to follow and execute their ideas. Leadership skills are also important to support rapid decision making under uncertainty. Managers, on the contrary, consider more risks than uncertainty and often work within established patterns. Moreover, traditional managers get their authority from the above; intrapreneurs, by contrast, start without the recognition of the same degree of power.

Intrapreneurs are able to search for opportunities and shape them into high-potential innovations through teamwork and with access to corporate resources. This assumes the right conditions of good leadership, communication and the appropriate environment to support creativity, these are essential for entrepreneurial outcomes to take place). The win-win situation of intrapreneurial motivation leading to corporate benefits are considered idealistic by some. According to Smedley), only a few companies know how to encourage intrapreneurs. Some examples are listed below.

Examples

One of the most well-known examples of intrapreneurship is the “Skunk Works” group at Lockheed Martin. The group was originally named after a reference in a cartoon, and was first brought together in 1943 to build the P-80 fighter jet. Because the project was to eventually become a part of the war effort, the project was internally protected and secretive. Kelly Johnson, later famous for Kelly’s 14 rules of intrapreneurship, was the director of this group.

Another example could be 3M, who encourage many projects within the company. They give certain freedom to employees to create their own projects, and they even give them funds to use for these projects. (In the days of its founders, HP *used to* have similar policies and just such an innovation-friendly atmosphere and intrapreneurial reputation.) Besides 3M, Intel also has a tradition of implementing intrapreneurship. Google is also known to be intrapreneur friendly, allowing

their employees to spend up to 20% of their time to pursue projects of their choice.

Other companies such as Xerox, Virgin, Siemens and Microsoft are also looking for unique solutions to promote CE in their own businesses, e.g. by developing separate research and development departments. Siemens-Nixdorf took a different approach, designing a 2-year corporate program to turn 300 managers into intrapreneurs, skilled in spotting new business opportunities with notable potential.

Kanter and Richardson's) case study research "Engines of Progress" describes how Ohio-Bell encouraged intrapreneurial behaviour through the development of a system of innovation called "Enter-Prize". Ostensibly, the program was about generating innovation but the design was cultural rather than financial.

Challenges

The biggest challenge for intrapreneurs is dealing with the "Corporate Immune System". This expression means that corporate organizational structures such as bureaucracy, hierarchy, rules etc. do not support intrapreneurial culture and behaviour. Many companies struggle with applying the concept of intrapreneurship into their daily routines due to high levels of defined tasks and schedules that deter opportunities for serendipity and for new ideas to be recognised. Issues around a highly defined schedule and lack of necessary time and space for idea creation are also highlighted in an article by Sushain Pandit (2015). Kawasaki (2006) also highlights the lack of rewards for entrepreneurial behaviour as a demotivating factor to search for new ideas.

Failure, or fear of failure, is another reason for organisations not becoming more entrepreneurial. Wladawsky-Berger (2010) found that firms act to protect resources by avoiding risk and penalizing failure. This resonates with the framework proposed by Ahuja and Lampert (2001) that explains why companies fail to develop breakthrough inventions. According to the framework, there is a tendency in large firms to favour familiar and mature technologies, and also search for new ideas that are similar to existing solutions. The authors propose investing in developing novel and emerging technologies, because this will increase the likelihood of breakthrough inventions. However their model lacks how to build upon the ideas. On the contrary, Ireland et al. (2009) present a model that conceptualises the CE strategy. Their model considers three main elements: entrepreneurial vision, organisational structure and behaviour, all of which influence and complement each other. The authors claim that these factors have to be adapted at three levels: at the organisational level, at the level of top-managers and at the level of other employees. It means that an effective CE strategy cannot be dictated by top-managers, only instigated by them. In doing so, they have to create CE strategy from interactions between entrepreneurial vision, pro-entrepreneurial architecture and entrepreneurial behaviour.

Jones and Butler (1992) stated that due to organisational size, age and complex functions, entrepreneurship and management are often separated. Their different levels of tolerance for risks (i.e. managers tend to avoid risks, while intrepreneurs work under uncertain conditions) generally result in managers penalizing failure. In addition, the lack of rewards and bureaucracy lead to outside entrepreneurship. Consequently, intrapreneurs often quit their jobs and set up their own businesses. Behrens and Patzelt (2015) claims that this could be prevented by choosing managers with failure experience in their previous positions. Smedley (2013) also suggests that creating

structure for new ideas depends on managers personal experience and attitude. He gives an example of SAP, a company who claims to celebrate failure. One of the recognized approaches to achieve this is through an "I wish/ I like session": the "I like" statements recognizes new projects, while the "I wish" statements consider how things can be done in a different way.

Recognising Intrapreneurs

Intrapreneurs often remain hidden and unrecognised, because they often display behaviour contrary to what is considered as "corporate". Accenture states that recognizing and supporting intrapreneurs is the biggest challenge for Entrepreneurial Leadership. However, Sinha & Srivastava may have a solution. Sinha & Srivastava's study evaluates personality factors such as extroversion; work values such as the need for intellectual stimulation and creativity; and, socio-cultural factors such as individualism and power distance and the relationship between these factors and an organisation's Intrapreneurial Orientation (the extent to which employees act in an entrepreneurial manner within their place of employment). The results of the study indicate a strong association between these personality factors and an organisation's Intrapreneurial Orientation. In practical terms, this implies that organisations can influence their Intrapreneurial Orientation through selection at recruitment and through ongoing training and development.

Why is Intrapreneurship a Contemporary Issue and How Do Practitioners Apply the Knowledge?

Intrapreneurship is a contemporary issue with pressing relevance for corporate managers. Antoncic and Hisrich conclude that Intrapreneurship has a positive impact on organisational growth and profitability. Organisations that build structures and embed values to support Intrapreneurship are consequently more likely to have a high Intrapreneurial Orientation and are more likely to grow than organisations with a low Intrapreneurial Orientation. Intrapreneurial organisations are more innovative, they continually renew and this proactive approach leads to new business venturing. Interestingly, their findings indicate that Intrapreneurship could be particularly beneficial for transition economies.

Antoncic & Hisrich find that good quality open communications together with a formal structure and supported by environmental scanning and management support will help an organisation become more intrapreneurial. Barringer at al support this assertion and describe the relationship between corporate entrepreneurship and strategic management. They found that the following variables can influence the organisation: Scanning Intensity, Planning Flexibility, Planning Horizon, Locus of Planning and Control Attributes. McKinsey's survey supports the view that organisations with a formal process report higher success rates.

In general, the academic approach to Intrapreneurship is predominantly based on the company wide re-organisation required to foster intrapreneurship. By contrast, the corporate view is often that innovation is the means, rather than the end. This is described in Capozzi et al.) where the driver for innovation is identified as the strategic need to grow the core business. Thus, there is often a difference in the vocabulary used with academics preferring intrapreneurship and practitioners talking of innovation.

Practicing managers looking to increase their organisation's Intrapreneurial Orientation, or their organisation's capacity for innovation could familiarize themselves with Altringer's "New model

for innovation"; this relies on successful entrepreneurs facilitating innovation sessions. This pragmatic approach relies on timely interventions to generate innovative ideas, rather than a company wide cultural change requiring organisational re-design. Another approach to bridging the gap between practitioners and academia is the model proposed by Anthony et al. The Minimum Viable Innovation System (MVIS) is an attempt to take the essence of academic models and demonstrate how organisations can implement a MVIS within 90 days

How to Develop Intrapreneurs?

As collaboration increases, the capability to collaborate leads finally to organizational learning as part of non-routine work processes. Many firms not only empower managers, but also enable employees to become more innovative and flexible even in the course of their daily activities and routine tasks. Through empowerment, employees become owners of their tasks. Described on a larger picture we can talk about identity building. In other words, employees require opportunities to make informed choices. They must accept personal responsibility for their actions and its consequences as traditional entrepreneurs across markets would do.

For creating sustained value through building intrapreneurship into the organization, a strong management commitment is essential. The management of the firm is eventually responsible for providing the conditions that facilitate individual intrapreneurial attitude with the aim of opening the employee's minds.

Infopreneur

An inforpreneur is an entrepreneur who identifies opportunities for creating enterprising information-based businesses by identifying knowledge deficiency situations and selling target-based information products and services, mainly through the internet. An Infopreneur can also be understood to be a person, or a person running a bot, whose primary business is gathering and selling electronic information. In spite of the preceding reference, there are many examples of Infopreneurs who are selling content in Paperback or Hardback book form on the Internet. Infopreneur is a neologism portmanteau derived from the words "information" and "entrepreneur".

The term is often used on the Internet. The word infopreneur was registered as a trademark (USPTO) on February 1, 1984, by Harold F. Weitzen. In 1988, H. Skip Weitzen published "Infopreneurs: Turning Data Into Dollars" (John Wiley & Sons).

Before the explosive popularity of the Internet at the turn of the millennium, such an occupation already existed. These legacy infopreneurs sold their information in other mediums such as audio tapes, audio CDs, CD-ROMs, videos, talk shows, and conferences. The classification of infopreneur has created a new style of business on the Internet, which allows anybody with a computer and an Internet connection to start businesses by publishing information that may appeal to a specific market.

There are generally two kinds of infopreneurs: those that sell information they have amassed on their own and those that earn commissions from selling information that they know nothing about. The latter may be considered more of an "information trafficker".

Online Publishing

As the Infopreneur is his/her own developer, marketer, producer, and distributor - some infopreneurs consider themselves being in the publishing business. Unlike in traditional print publishing, the Infopreneur puts down, in electronic form (usually), what he/she knows from experience or what he/she learned and passes the conttnhon to the world through publishing on websites, blogs, ebooks, emails, etc..

The impact of these infopreneurs has also had a disruptive impact by slicing through the traditional publication industry that involves agents, publishers, distribution channels, and retailers. As a result, entrepreneurial firms have emerged to serve artists and authors who want to be self-published. Other self-publishing groups include the Nonfiction Authors Association.

Blogs and Advertisements

Information traffickers do consider themselves infopreneurs. After all, they are making money out of information. Many of them utilize the power of the World Wide Web - creating websites and blogs to act as their storefront.

The infopreneur may attract traffic to his/her site by manipulating their site to appear higher on search engine results. This may be done by creating a site that is robust in information, and configuring META keywords and descriptions that accurately describe the web page. More often, infopreneurs who are out to get a "quick buck" will create a mash-together of information by publishing popular, sought after content, often incorporating RSS feeds from more popular sites. The infopreneur then makes money from AdSense ads, affiliate links, referrals and leads, and/or selling ebooks that are related to the search parameters and keywords. Essentially, these infopreneurs "piggy-back" on already established information. For example, there are many such *splogs* that copy verbatim the articles from Wikipedia.

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We would like to thank the editorial team for lending their expertise to make the book truly unique. They have played a crucial role in the development of this book. Without their invaluable contributions this book wouldn't have been possible. They have made vital efforts to compile up to date information on the varied aspects of this subject to make this book a valuable addition to the collection of many professionals and students.

This book was conceptualized with the vision of imparting up-to-date and integrated information in this field. To ensure the same, a matchless editorial board was set up. Every individual on the board went through rigorous rounds of assessment to prove their worth. After which they invested a large part of their time researching and compiling the most relevant data for our readers.

The editorial board has been involved in producing this book since its inception. They have spent rigorous hours researching and exploring the diverse topics which have resulted in the successful publishing of this book. They have passed on their knowledge of decades through this book. To expedite this challenging task, the publisher supported the team at every step. A small team of assistant editors was also appointed to further simplify the editing procedure and attain best results for the readers.

Apart from the editorial board, the designing team has also invested a significant amount of their time in understanding the subject and creating the most relevant covers. They scrutinized every image to scout for the most suitable representation of the subject and create an appropriate cover for the book.

The publishing team has been an ardent support to the editorial, designing and production team. Their endless efforts to recruit the best for this project, has resulted in the accomplishment of this book. They are a veteran in the field of academics and their pool of knowledge is as vast as their experience in printing. Their expertise and guidance has proved useful at every step. Their uncompromising quality standards have made this book an exceptional effort. Their encouragement from time to time has been an inspiration for everyone.

The publisher and the editorial board hope that this book will prove to be a valuable piece of knowledge for students, practitioners and scholars across the globe.

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