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Vanessa Ratten *Editor*

# Entrepreneurship and Organizational Change

Managing Innovation and Creative  
Capabilities

 Springer

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Editor

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ISSN 1431-1941

ISSN 2197-716X (electronic)

Contributions to Management Science

ISBN 978-3-030-35414-5

ISBN 978-3-030-35415-2 (eBook)

<https://doi.org/10.1007/978-3-030-35415-2>

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# Acknowledgements

Editing a book is a complex and time-consuming process but is well worth the effort. I thank Dr. Prashanth Mahagaonkar for his help and advice in editing this book. The initial idea for this book was to focus on bridging the gap between the literature on entrepreneurship and organizational change in a way that incorporated a creativity perspective. This is important as entrepreneurship is typically studied from a multitude of viewpoints including the individual, firm and community. Common to these different approaches is the use of creativity and novelty in bringing about change in a way that leads to societal progress.

Another reason for the book is due to much of my interest in entrepreneurship coming from my family and in particular the long hours my mum Kaye Ratten and dad David Ratten put in when they ran their small business. Unless you have come from a small business family, it is hard to understand the amount of work and time that goes into running a business. When they ran their businesses, it was before the introduction of the Internet and smartphone technology was still at its infancy. Times have certainly changed now including the re-emphasis of the need for small businesses in the global economy. Marketing slogans like ‘Small Business Saturday’ focus on the need for communities to support their local businesses and the impact they have in terms of social wellbeing.

Lastly, I thank my brothers Hamish and Stuart, sister-in-law Tomomi and niece Sakura for their support. It is nice to think about creativity from my niece’s perspective and in particular how imagination is important and a fundamental part of business.

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# Entrepreneurship and Organizational Change: Managing Innovation and Creative Capabilities



Vanessa Ratten and Petrus Usmanij

**Abstract** Entrepreneurship is a fundamental characteristic of successful organizations and impacts their overall performance in the marketplace. Increasingly, more attention is given to the way innovation and creative capabilities can be managed in organisations in order to increase their competitiveness. The aim of this chapter is to discuss the role entrepreneurship plays in organisational change as a way of moving forward the literature on behavioural intentions. This means focusing on dynamic capabilities that embed an innovative perspective in terms of enabling creative change.

**Keywords** Creativity · Entrepreneurship · Innovation · Organizational change

## 1 Introduction

How does entrepreneurship influence organizational change? The answer to this question is related to the way entrepreneurship is viewed in society and managed by organizations (Ferreira & Ratten, 2017). Due to the continual change in the global business environment, it becomes important to consider the way innovation and creative capabilities of organizations can be used to facilitate entrepreneurship. Whilst there has been an abundance of research on entrepreneurship and organizational change but most of it has tended to view the process through existing theoretical frameworks that emphasise organizational behaviour (Anggadwita, Ramadani, Luturlean, & Ratten, 2016). This has led to a strong body of knowledge on the way organizations can encourage innovative leadership and develop a new product development strategy. However, innovation and creativity are missing in much of the literature on organizational change due to the reluctance to shift the current paradigm to an emerging one.

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_1](https://doi.org/10.1007/978-3-030-35415-2_1)

To understand organizational change it is helpful to focus on the change agents that make most of the decisions about how to alter corporate strategy. This includes harnessing the potential of habitual entrepreneurs who are often the ones who continually try to make an impact by changing current strategies (Coelho, Marques, Loureiro, & Ratten, 2018). Habitual entrepreneurs are defined as ‘persons who have experience owning at least two different firms whether temporally (serial entrepreneurship) or simultaneously (portfolio entrepreneurship)’ (Huovinen & Tihula, 2008: 152). Organizations that make use of the talents of habitual entrepreneurs can facilitate more entrepreneurial possibilities by being alert to opportunities.

Alertness in an entrepreneurial context involves ‘the cognitive capacity to process prior knowledge and experience, recognise patterns in an environment, process information and engage in social interactions’ (Adomako, Danso, Boso, & Narteh, 2018: 3). Organizations need to be alert to new opportunities in order to stay ahead of their competitors. In order to be alert, an organisation needs to be ready to see things in a new light. This means being prepared for opportunities prior to them occurring in the marketplace (Jones, Ratten, Klapper, & Fayolle, 2019).

The propensity to be entrepreneurial means associating trends with potential sources of revenue. This means processing information cues in a way that responds to opportunity in a timely manner. In order to notice shifts in the environment, organisations need to pay attention to change. Entrepreneurship can be defined as ‘the resource, process and state of being through which individuals with ability and agency utilise positive opportunities in the market for generating individual and/or social value’ (Hessels & Naude, 2019: 397). This definition recognises the need for opportunity-seeking behaviour within organizations as a way of building a competitive advantage in the marketplace. An innovative and creative perspective to enabling organizations to adapt to the changing global business environment is needed. Entrepreneurship has a significant impact on organisational change and can impact performance rates. An entrepreneurial way of managing change is important in facilitating a knowledge ecosystem. This chapter seeks to answer the following questions:

- (1) What is the role of entrepreneurship in facilitating organizational change?
- (2) How can entrepreneurs become change agents in organizations?

The structure of this chapter is as follows. After a discussion on the role entrepreneurship plays in organizational change, the way to manage innovation and creative capabilities are stated. Increased bodies of research are emphasising the importance of taking a novel approach to addressing issues of organizational change. The knowledge economy has resulted in more organisations needing to change to digital ones that emphasise information communications technology. For this reason, organisational change is examined from a number of different viewpoints in order to take a holistic perspective. This enables a better understanding of the way entrepreneurship influences the learning processes in an organisation and its relationships with the outside world. Managerial suggestions that describe ways to manage change are stated. The chapter concludes with an analysis of the way creativity and innovation can be embedded in the process of organisational change.



This includes making some suggestions for future research in order to integrate entrepreneurship and organizational change literature.

## 2 Regional Innovation Systems and Creativity Capabilities

The literature on regional innovation systems focuses on the geography of innovation. This is linked to the concept of entrepreneurial ecosystems due to the acknowledgment that places matters when understanding innovation patterns. Regional innovation systems involve three main elements: region, innovation and system, which work together to foster innovative activity within a place (Cooke, Uranga, & Etxebarria, 1997). The region is the place where the innovation occurs and it is characterised by environmental and government policies. Each region is different depending on the type of industry and people that live there. Some regions are more manufacturing or knowledge-based, which influences the level of innovation activity. Innovation involves novel recombination of knowledge that results in change (Spigel & Harrison, 2018). Knowledge and networks play a part in the development of a region in terms of its innovative capacity. For a region to use innovation there needs to be systems put in place to address change. This enables the drawing of knowledge and creativity from different entities that leads to change.

Creativity is commonly acknowledged to be a key source of innovation and a necessity for economic growth. Due to the emphasis on the knowledge economy, more organisations are looking for ways to increase their competitiveness. Whilst much research has been written about the way entrepreneurship facilitates regional development and the role knowledge spillovers play in this process, less emphasis is placed on the way creativity can be a source of innovation and growth (Jones, Klapper, Ratten, & Fayolle, 2018). Creativity is part of the notion of entrepreneurial alertness as it involves thinking about things in a new way. This is crucial in order to see potential in ideas that have yet to be explored in the market. To do this, organisation should scan the environment to see what kind of trends are emerging. This will help identify change that has been missed by others. This involves some sensitivity as new approaches might mean changing the existing status quo. By probing shifts in information it can help organisations pull together their resources to focus on a specific market opportunity (Marques, Santos, Ratten, & Barros, 2019). To do this a focus on entrepreneurial ecosystems that an organisation is part of is needed in order to advance both the literature and managerial practice.

## 3 Entrepreneurial Ecosystems

Having the right environment for entrepreneurship is important in order to increase overall economic activity (Ratten & Tajeddini, 2017). Entrepreneurial ecosystems provide a dynamic way to spur entrepreneurship by focusing on collaborative outcomes. It is important to create environments that produce innovative ways of behaving and acting. Bischoff, Volkmann, and Audretsch (2018: 21) define stakeholders as

‘groups and individuals who can affect or be affected by business activities’. Stakeholder theory was made popular by Freeman (1984) due to its ability to analyse how different entities in society are affected by the objectives of a business. The theory recognises the need for a more holistic understanding of how business activities affect other organisations and individuals. This means that different points of view about the impact of economic activity need to be considered (Ratten, 2019). There are positive, negative and neutral effects of business activity on stakeholders. This requires consideration about the conflicting needs of stakeholders depending on their position in society. Some stakeholders are more concerned with environmental effects whilst others are motivated by financial considerations (Ratten & Dana, 2017).

To understand the process and dynamics involved in entrepreneurship, an examination of the entrepreneurial ecosystem concept is required. The growing number of start-ups has led to increased research interest in entrepreneurship. At the centre of many entrepreneurial ecosystems are incubators where ideas evolve into a commercial reality (Miragaia, Ferreira, & Ratten, 2017). Incubators enable new ways of thinking to progress into business ideas. More regions have introduced incubators as a way to facilitate entrepreneurial development. The main goal of an incubator is to coordinate diverse interests and to provide entrepreneurship support. The benefit for regions in having incubators is that they can act as a policy intervention tool to attract certain types of businesses. This is useful for start-ups that may have a different kind of business models compared to traditional enterprises. Another advantage of incubators is that they enable participants to connect with a variety of stakeholders thereby accessing potentially valuable information. This is important in facilitating connection but also a sense of belonging. In the early stages of a start-up it is useful for people to be involved and have a supportive environment.

More weight is given to the concept of entrepreneurial ecosystems in the entrepreneurship literature due to its theoretical and practical significance (Ratten, 2017). Theoretically entrepreneurial ecosystems enable an understanding about the social networks and interactions that take place in a region (Santos, Marques, & Ratten, 2019). This helps to understand how the business develops as a result of knowledge exchange. In a competitive business environment having the right kind of connections is important and a useful tool in promoting one’s product or service (Ratten, 2018). To stimulate entrepreneurship, there needs to be a practical way to link knowledge accumulated into market realities. A novel part of the entrepreneurial ecosystem is the role start-ups play in stimulating networks. From the perspective of entrepreneurs, ecosystems provide a way to reduce time and effort in seeking essential resources (Ratten, Costa, & Bogers, 2019).

Entrepreneurial ecosystems are characterised by frequent interactions amongst entities that result in positive change. Regions that have good entrepreneurial ecosystems tend to encourage the potential of ideas by focusing on new venture creation. There is a sense of interdependence in an entrepreneurial ecosystem made apparent by the inputs of the collective entities. This means the trajectory of an ecosystem will result from the willingness of entities to innovative. Ecosystems with a high capacity for innovation are likely to be more successful.

There needs to be close physical or digital proximity amongst different entities in an ecosystem in order for them to be self-sustaining. This means linkages need to exist amongst members of an ecosystem that can support business growth. There is uncertainty about the right mix of elements required for an entrepreneurial ecosystem to function efficiently. This comes from confusion about what is needed within an ecosystem for it to be considered as entrepreneurial. There are different kinds of actors and processes that contribute to the development of an ecosystem and some are more important at certain time periods. The environment for start-ups can be considered from different geographic locations including rural and urban locations. Rural ecosystems tend to have fewer resources compared to urban ecosystems that are characterised by a high level of business engagement. These differences depend on the type of government support programs available and the level of infrastructure. Thus, entrepreneurial ecosystems are place-based and reliant on natural capital endowments. Entrepreneurial leadership is a necessary requirement to facilitate entrepreneurship in a region. Productive entrepreneurship requires strategic direction in terms of the types and characteristics of business activity. In regions, leaders help create opportunities by managing business initiatives.

## 4 Conclusion

More organizations are focusing on entrepreneurship as a way to differentiate their business from competitors. For this reason, it is crucial to understand how innovation and creativity can be used as a form of competitive strategy. This chapter has discussed the role of regional innovation systems as a way of understanding the complex relationships between stakeholders. This helps to progress the literature on entrepreneurship by embedding it within a context that has an emphasis on innovation and creative capabilities.

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# Innovativeness and Competitiveness of Polish Service Enterprises Under the Conditions of Market Liberalization in the Central and Eastern Europe



Anna Dąbrowska and Adrian Lubowiecki-Vikuk

**Abstract** This chapter focuses on the role of innovativeness and competitiveness in Polish service enterprises. An econometric analysis was done that focused on the average scores related to threats resulting from services market liberalization in the opinion of enterprises according to the size of the enterprise and type of services. Both the benefits and threats resulting from the liberalization of the services market of Polish service enterprises operating on the markets of other CEEC differed with regard to the size of the enterprise and the type of services provided. Suggestions for future research are included together with managerial implications.

**Keywords** Innovativeness · Competitiveness · Poland · Service enterprises

## 1 Introduction

The growing importance of the services sector in the economy is conditioned, among others, by the influence of technological advances, changes in the price levels as well as outsourcing and globalization processes (Galar, 2013). Increasingly, we are dealing with the transfer of service-related operations beyond the borders of our country, to other European Union (EU) countries, including of the Central and Eastern Europe countries (CEEC). According to business process outsourcing (BPO) index and shared service location, in 2016, the 15 listed BPO—*pioneering location* countries included the EU countries: Lithuania (third position), Bulgaria (7) and Spain

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**Funding** This work was financed by the Polish National Science Center under [grant number 2015/17 / B / HS4 / 02750].

The original version of this chapter was revised: Grant number has been included. The correction to this chapter is available at [https://doi.org/10.1007/978-3-030-35415-2\\_11](https://doi.org/10.1007/978-3-030-35415-2_11)

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_2](https://doi.org/10.1007/978-3-030-35415-2_2)

(15), and the ranking of 15 BPO—*mature location* countries included: Romania (first place), Hungary (3), the Czech Republic (6), Poland (7), the UK (12), Germany (13), France (15) and Ireland (20), where the first position 1 represents the most attractive location, considering the following criteria: conditions—30%, risk—20% and costs—50% (Where is the World? Business process outsourcing and shared service location index 2016, 2016).

One may put forth a thesis that undertaking service-related operations in another country (internationalization) creates opportunities for development, boosting competitiveness and innovativeness of enterprises as well as for transferring experiences drawn from foreign markets to the domestic business.

Table 1 presents enterprises that either introduced innovation or conducted any kind of innovative activity in 2016 in selected CEEC, taking into account the size of enterprises and the type of innovation.

The highest rates were recorded:

- with regard to improving the existing goods or services: among small enterprises from Lithuania, Slovakia and Croatia (over 70% of companies); medium-sized: from Serbia, Slovakia and Lithuania (over 73%); large: from Latvia, Serbia and Slovakia (over 81%);
- with regard to introducing completely new goods and services: among small enterprises from Lithuania, Slovakia and Croatia (over 34% of companies); medium-sized: from Lithuania, Latvia and Slovakia (over 31%); large: from Latvia, Slovakia, Serbia and Lithuania (over 37%);
- in terms of reaching new customer groups: among small enterprises from Lithuania, Latvia and Slovakia (over 58% of companies); medium-sized: from Lithuania, Latvia and Romania (54% and above); large: from Lithuania, Romania and Serbia (over 59%);
- with regard to customer-specific solutions: among small enterprises from Lithuania, Bulgaria and Serbia (over 44% of companies); medium-sized: from Lithuania, Croatia and Romania (over 43%); large: from Lithuania, Northern Macedonia and Latvia (over 47%);
- with regard to the low price range: among small enterprises from Northern Macedonia, Bulgaria and Lithuania (over 20% of companies); medium-sized: from Serbia, Lithuania and Romania (19% and above); large: from Lithuania, Serbia and Slovakia (over 24%).

In 2016, the most innovative activities were introduced by Lithuanian companies, and the least—by Hungarian ones. It appears that innovations focused on improving the existing goods or services usually involve large enterprises, which holds true for Polish companies, which additionally reach new groups of clients.

Among innovative businesses, one of the most crucial obstacles in achieving goals, according to the enterprises surveyed in each country, was fierce price competition. The second, in terms of the percentage of companies that considered a given obstacle significant and assessed its impact as high, was—strong competition regarding a product's quality, its opinion or brand. Also, the high costs of adapting to governmental and legal regulations are not unimportant for enterprises. High costs of access to

**Table 1** Types of innovations in small, medium-sized and large enterprises in 2016 in selected CEEC (%)

Country	Size of the enterprise <sup>a</sup>														
	Small					Medium-sized					Large				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Bulgaria	51.2	28.9	50.8	44.7	21.2	52.7	26.2	51.6	38.9	18.6	52.9	27.6	47.8	36.1	17.8
Croatia	70.7	34.4	48.6	41.4	18.9	7.6	32.5	41.6	43.8	14.9	77.6	36.7	42.7	41.5	12.6
Latvia	63.2	31.4	63.2	39.1	16.8	72.2	34.9	62.0	39.6	14.7	84.8	46.7	48.9	47.8	18.5
Lithuania	73.9	39.0	66.9	61.8	20.5	73.4	36.7	71.2	62.3	21.6	81.5	37.4	67.4	67.8	26.9
Hungary	24.1	13.4	13.4	18.3	6.3	21.8	12.2	14.5	16.2	6.3	16.5	10.1	8.1	13.1	5.6
<i>Poland</i>	52.3	21.9	51.9	41.4	<i>n.a.</i>	54.0	26.8	49.3	40.8	<i>n.a.</i>	65.6	35.0	48.6	44.2	<i>n.a.</i>
Romania	68.7	29.0	55.5	37.9	18.6	69.4	28.8	54.0	43.4	19.0	72.2	32.3	60.1	44.8	21.5
Slovakia	72.4	31.2	58.1	41.1	9.1	75.7	31.6	46.7	36.6	16.1	81.1	43.0	50.6	35.3	24.1
North Macedonia	69.0	32.7	54.9	42.1	23.0	63.4	29.7	51.3	38.4	17.7	81.0	36.5	57.1	61.9	17.5
Serbia	65.7	36.4	48.9	44.7	13.6	76.0	30.4	50.4	40.4	22.1	82.4	37.4	59.5	46.2	24.8

Notes: Focus on (1) improving existing goods or services, (2) introducing entirely new goods or services, (3) reaching out to new customer groups, (4) customer-specific solution and (5) low price; n.a.—not available

<sup>a</sup>—small: 10–49 employees, medium-sized: 50–249 employees, large: 250 and more employees

Source: Own work based on (Eurostat, 2019)

new markets are related to the lack of sufficient financial resources. Obstacles which seem more important for Polish companies are lack of demand as well as lack of qualified personnel (Eurostat, 2018).

It is worth adding here that in 2014–2016, innovative activity in Poland could be demonstrated only by 14.5% (in 2013–2015 it was 10.6%) of service enterprises and by almost twice as much—20.3% (in 2013–2015—18.9%) of industrial enterprises. In 2016, the share of revenues from the sale of new or significantly improved products, launched on the market in 2014–2016, accounted for 8.1% in total revenues in industrial enterprises and 3.9% in services (CSO, 2017).

The findings by Oyewole (2018) clearly indicate that developing countries (among others CEEC, including Poland) have so far been marginalized on the international services market.

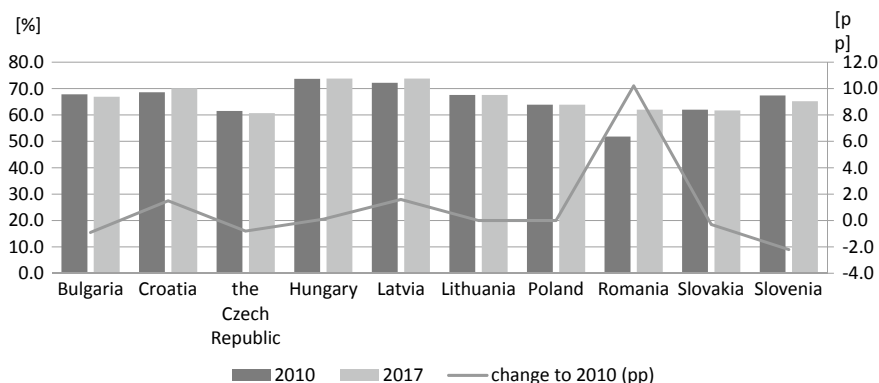
Thus, there appears a question whether the services market liberalization meets its objectives, including such factors as stimulating the innovativeness of services (e.g. Copenhagen Economics, 2005; European Communities, 2007), or whether Polish enterprises operating within the area of CEEC benefit from the favourable conditions created by the service directive (European Parliament and of the Council, 2006). The aim of the Directive liberalizing the services market (with the exception of excluded markets) was to facilitate the functioning of the enterprises, in particular, small and medium-sized enterprises (SMEs) providing or using services, by eliminating the barriers in the trade of services as well as facilitating the cross-border activity. Pursuant to Article 1 of the Directive, the Directive concerns the establishment of the general regulations promoting the use of: (1) the freedom of economic activity of service providers and (2) free (cross-border) movement of services, while ensuring the high level of their quality.

Taking into consideration the low level of innovativeness of Polish service enterprises, in particular SMEs, the benefits offered in the Directive should provide an incentive for the companies to engage in the cross-border activity and experience its positive effects.

The functioning of a uniform internal market, based on broadly understood community freedom for citizens of EU countries, means a greater choice of goods and services, and for service enterprises—more potential consumers. These enterprises find it more and more difficult to gain a competitive advantage on the services market, which is due to, among others, different advancements of the service economy model in a particular country or different tendencies to introduce innovations (see Table 1). Therefore, the search for innovative solutions to raise competitiveness is becoming a necessity not only for Polish businesses, but for all those who want to compete in the markets of both CEEC and other EU.

In 2017, the added value resulting from the operations of service enterprises constituted the major part of the added value generated in EU countries. In CEEC, this share was at a level ranging from 60.7% in the Czech Republic to 73.8% in Hungary and Latvia. In Poland, this indicator stood at 63.9% (Fig. 1). It seems interesting to compare the situation in CEEC with the leading countries, i.e. countries where we deal with the servicization of the economy. In relation to 2010, the most significant increase in the share of service-related activity in the creation of the added value





**Fig. 1** Share of gross added value in the services generated (current prices) in selected national economies of CEEC in 2010 and 2017 and their change. *Source* Own work based on (Statistics Poland, 2018, p. 9)

was demonstrated by Romania (by 10.2 pp), and the largest decrease—by Slovenia (2.2 pp). In Poland, in 2017, no changes were observed compared to 2010.

The European Parliament, the Council of Europe and the European Commission have recently made efforts to revive the internal market in order to boost the development of the European single market and to put the society, consumers as well as SMEs even more at the heart of the single market policy (Egan, 2015; Fabbrini, 2015).

The aim of the chapter is to identify factors which stimulate and limit the innovativeness and competitiveness of Polish service enterprises operating on the markets of CEEC in the conditions of the liberalization of the EU services market.

In the present, chapter two questions were adopted:

Q<sub>1</sub>: Has the liberalization of the services market in the EU contributed to increasing the level of competitiveness and innovation of Polish service enterprises?

Q<sub>2</sub>: What benefits and threats resulting from the liberalization of the services market are perceived by Polish service enterprises operating on the markets of other CEEC?

## 2 Liberalization—Literature Review

The source literature highlights that liberalization of services is one of the most important potential sources of profit in terms of economic performance, including productivity in production and coordination of activities both between companies and inside them (e.g. Arnold, Javorcik, & Mattoo, 2011; Francois & Hoekman, 2010).

As early as in the 1980s, when liberalization was being discussed (Bhagwati, 1987), it was noted that developing countries perceived developed countries as seeking concessions concerning trade in services in exchange for removing the existing

as well as potential obstacles to trade in goods instead of setting *quid pro quos* in the service itself. Developing countries could gain export benefits in the services sector and benefit considerably by actively uniting in negotiations on a package of services which would allow them to make use of these advantages. The liberalization of services also raised the fear that enterprises from highly developed countries would be weakened by new market players who would compete through price (Bhagwati, 1987). Although enterprises realize that competition should take place at the quality level, there are still companies that prefer competition based on a lower price (Dąbrowska, 2018). The situation is exacerbated by the fact that there is still a relatively small share of SMEs involved in trade in services (Lejárraga & Oberhofer, 2015).

According to Hagemeyer, Michalek, and Michalek (2014) the liberalization provides minimal welfare gains for Poland and the main opponents of the Service Directive, while they are expected to be higher for small economies open to trade in services.

It may also be observed that there are still many prohibitive barriers to free movement of services in the EU for most service providers, especially for SMEs (Arnold, Javorcik, & Mattoo, 2011; Badinger, Breuss, Schuster and Sellner, 2008).

Currently, more and more businesses are striving to develop and improve their competitiveness, using an innovative approach to management (e.g. Barras, 1986, de Jong, Bruins, Dolfsma and Meijaard, 2003; Mazur & Zaborek, 2016; Sztutowski, 2018). These activities differ at the national level (Fedulova, Piatnytska, & Lukashova, 2018, Slusarczyk, 2018), which results from the considerable diversity of national regulations and management in European economies. Fiorini and Hoekman (2018) have shown that this diversity has a potential impact on the lower productivity of external trade policy. In some cases, liberalization can replace poor regulation; in others, there is a complementary relationship. The same authors emphasize that the productivity effects related to the liberalization of access to the services market depend on the quality of national economic regulations, and the EU funds alone are far from bringing about moderate effects. What is more, the case of CEEC economies shows that increasing innovation spending fails to produce proportional effects (Dobrzanski, 2018).

The innovative approach to management also differs with regard to the industry and a single company (Nowacki & Staniewski, 2012). It seems that the size of the enterprise can be of significant importance. In the case of micro-enterprises, although the benefits of innovation are noticed, they are ultimately not taken into account in strategic management. According to Faherty and Stephens (2016), this is frequently due to lack of resources. In the source literature, opinions remain divided. Such barriers do not necessarily impede the continuous innovation of services at all times, because they can even act as catalysts that improve the likelihood of companies adopting innovations (Durmusoglu, Nayir, Chaudhuri, Chen, Joens and Scheuer, 2018).

### 3 Research Approach

In the study, the authors used quantitative methods. Due to the inability to estimate the sampling frame, the non-stable sampling technique of snowball sampling was applied (Fowler, 2013; Noy, 2008). A sample of 400 enterprises providing services was taken using the PAPI technique (Paper and Pen Personal Interview—a direct individual questionnaire interview) or at the request of a respondent—using CATI (Computer-Assisted Telephone Interview) or CAWI (Computer-Assisted Web Interview—assisted computer interview using a website) (Fowler, 2013). The filter qualifying for the study was six categories of services (trade services, construction, craft, specialist and business-related services, tourist and accommodation and catering services, training, education and information services) and a division according to the size of the enterprise (with regard to the number of employees—small: 10–49 employees, medium-sized: 50–249 employees, large: 250 and more employees). The respondents included: owners, managers and competent individuals dealing with foreign trade. Also, enterprises had to provide services outside of Poland—on at least one market from among CEEC. In relation to the last criterion, 182 correctly filled questionnaires were approved for further analysis. The study was preceded by pilotage in accordance with the International Code of Conduct for Marketing and Social Research ICC/ESOMAR (2016) (Table 2). In addition to three filter questions, the questionnaire contained 29 substantive questions and two metric questions (market experience, location in Poland by voivodeships).

**Table 2** Research methodology adopted by the authors

Research methodology	
Desk research	Primary research
– Foreign research literature query	– Selection of research method
– Polish research literature query	– Selection of study samples
– Analysis of legal acts	– Preparing a survey questionnaire for a quantitative study
– Analysis of macroeconomic data for the services sector	– Pilot study
– Analysis of the reports concerning the effects of service liberalization in the EU	– Conducting a survey among 400 service enterprises
– Conclusions	– Preparation of the study findings with the application of Statistica ver. 13.0 (StatSoft, Inc.)
	– Selecting enterprises operating in CEEC markets
	– Preparation of study results
	– Conclusions

Source Author's own table

The survey was conducted in September–October 2016 and was carried out by a professional marketing research company using a proprietary questionnaire. In accordance with the adopted aim of this chapter, the authors focused on three key questions: (Q<sub>1</sub>) *Has the liberalization of the services market in the EU contributed to increasing the level of competitiveness and innovation of Polish service enterprises?*—where respondents could choose one of three options: yes (on the domestic market), yes (on the CEEC market), no; (Q<sub>2</sub>) *What factors stimulate and what factors limit innovation and competitiveness of Polish service enterprises?*—nine factors stimulating (co-financing, competitive prices, the quality of services/products, higher profits/income, larger market, investment in human capital, new products/services, innovativeness and optimization of processes) and five factors limiting (language barriers, legal barriers, bureaucracy, financial aspects and access to technology) were provided (for both of these cases the respondents were able to choose ‘others’ or ‘I do not know’ options) and, finally, (Q<sub>3</sub>) *What are the benefits and risks perceived by representatives of service enterprises operating on CEEC markets?* Benefits and threats were divided into external and internal factors. Responses were given on a scale from 0 to 5, where 5—really significant importance; 4—great importance; 3—average importance; 2—little importance; 1—very little importance; and 0—no importance. The adopted metric scale allowed for the calculation of the mean values (M), which were then analysed with a statistical test (Elliott & Woodward, 2007). The results were compared with two variables, i.e. the size of the enterprise and the type of services provided in the CEEC outside Poland. The selected variables are considered to be of key importance for the issue in question (Faherty & Stephens, 2016; Lejarraga & Oberhofer, 2015; Nowacki & Staniewski, 2012).

The collected research material was statistically analysed using the Statistica software ver. 13.0 (StatSoft, Inc.). By means of two-sided tests, it was investigated whether there are differences between dependent variables (Q<sub>1</sub>, Q<sub>2</sub> and Q<sub>3</sub>) and independent variables (company size, type of services provided). For the purpose of the assessment of the significance of the effects, the significance level of *p*-value < 0.05 was adopted. For better readability of the results in the result tables (Tables 3, 4 and 5), these significances were highlighted in italic. As already mentioned, for the analysis of enterprises providing services outside of Poland:

- 182 enterprises were selected on at least one market from among CEEC, among which small enterprises were represented by 69 respondents, medium-sized businesses—59 respondents, and large companies—54 respondents;
- the owners of enterprises accounted for 23 respondents, the managerial staff—26 respondents, competent individuals dealing with foreign trade—133 respondents;
- enterprises providing trade services were represented by 41 respondents; building—18 respondents, craft—18 respondents; specialized and related to business activities—37 respondents; tourist, accommodation and catering services—53 respondents, training, education and information services—15 respondents.

**Table 3** Respondents' opinions ( $n = 182$ ) concerning the liberalization of the services market in the context of competitiveness and innovativeness (%)

Has the liberalization of services market in the EU contributed to the increase of the level of:		Total		Size of enterprise			Type of services					
		<i>n</i>	%	Small	Medium-sized	Large	(1)	(2)	(3)	(4)	(5)	(6)
Competitiveness of polish service enterprises?	Yes, in the domestic market	38	21	19	25	19	24	11	17	24	23	13
	Yes, in the CEE market	106	58	52	58	67	59	67	61	65	49	60
	No	38	21	29	17	15	17	22	22	11	28	27
Innovativeness of polish service enterprises?	Yes, in the domestic market	39	21	23	31	9	37	33	17	8	19	13
	Yes, in the CEE market	86	47	43	53	46	39	44	56	46	49	60
	No	57	31	33	17	44	24	22	28	46	32	27

*Notes* (1) commercial services, (2) construction services, (3) craft services, (4) specialist and business-related services, (5) tourism, accommodation and catering services, (6) training, education and information services; Italics background represents  $p$ -value < 0.05  
*Source* Author's own table

**Table 4** Factors stimulating and limiting innovativeness and competitiveness in the opinion of the respondents (%)

Factors	Size of enterprise			Type of services					
	Small	Medium-sized	Large	(1)	(2)	(3)	(4)	(5)	(6)
<i>Stimulating</i>									
Subsidies	2	1	1	1	-	1	-	1	1
Competitive prices	6	5	3	3	2	1	1	5	2
Quality of services/products	2	2	3	2	1	-	2	2	1
Higher profit/income	4	5	1	2	1	1	2	4	1
Bigger market	1	1	2	1	-	-	2	1	-
Investment in human capital	-	1	4	1	1	-	3	-	1
New products/services	1	3	1	2	-	1	1	1	-
Innovativeness	2	2	3	1	1	1	1	1	2
Process optimization	1	-	3	1	1	-	2	-	1
Others	2	3	4	1	1	1	4	2	-
I don't know	22	14	8	10	4	5	5	16	3
<i>Limiting</i>									
language barriers	-	1	1	1	-	-	1	-	-
legal barriers	2	-	2	-	1	1	1	1	1
bureaucracy	1	4	8	4	1	-	5	1	1
financial factors	3	10	7	4	3	3	4	5	1
access to technology	1	1	-	1	-	1	-	-	-
others	1	1	4	1	1	-	2	-	1
I don't know	31	16	9	12	4	7	7	23	4

Note As in Table 3

Source Author's own table

**Table 5** Average scores related to benefits resulting from services market liberalization in the opinion of the surveyed enterprises according to the size of enterprise and type of services

Benefits	Size of enterprise			Type of services					
	Small	Medium-sized	Large						
				(1)	(2)	(3)	(4)	(5)	(6)
<i>External factors</i>									
Larger market	3.2	3.7	4.0	3.7	3.8	3.6	4.0	3.2	3.5
Higher prices in the EU market	3.0	3.4	3.7	3.4	3.3	3.4	3.6	3.2	3.2
Possibility to simplify procedures	2.3	2.5	2.9	2.6	2.6	2.3	3.1	2.0	3.1
Reducing bureaucratic procedures	2.6	3.0	3.0	3.0	2.2	3.1	3.3	2.6	2.7
Access to information via PSC	3.0	3.3	2.7	3.0	2.8	3.5	3.1	3.0	2.7
Faster handling of formalities	2.5	2.6	3.1	2.4	2.7	3.4	3.2	2.4	2.8
Taxation simplifications	3.0	2.7	2.8	2.9	2.7	3.1	3.0	2.9	2.1
<i>External factors</i>									
Possibility to establish business contacts	3.1	3.7	3.7	3.6	3.1	3.7	4.1	3.1	3.3
Possibility to acquire new clients	2.9	3.5	3.9	3.7	3.3	3.6	3.6	2.9	3.5
Possibility to obtain new orders	3.3	4.0	3.9	3.8	3.8	4.1	4.0	3.4	3.6
Possibility to increase the turnover	3.1	3.7	3.9	3.6	3.9	3.7	3.8	3.1	3.6
Possibility to expand the services range	2.9	3.4	3.6	3.6	3.4	3.1	3.8	2.7	3.4
Possibility to develop the enterprise	3.3	3.7	4.0	3.7	3.3	3.8	4.2	3.3	3.6
Possibility to benefit from the experience of other entities	2.6	2.8	3.4	2.7	3.3	3.1	3.2	2.5	3.1
Increase in efficiency	3.2	3.6	3.9	3.7	2.8	3.5	4.1	3.3	3.8
Learning the language where the services are provided	2.6	2.3	3.1	2.5	2.6	2.2	3.3	2.7	2.4

(continued)

**Table 5** (continued)

Benefits	Size of enterprise			Type of services					
	Small	Medium-sized	Large	(1)	(2)	(3)	(4)	(5)	(6)
	Better information inflow	2.8	3.0	3.2	2.9	2.7	3.2	3.2	2.8
Marketing benefits	3.0	2.8	3.3	2.9	3.1	3.1	3.4	2.8	3.3
Easier access to appropriate human resources	2.7	3.0	3.1	2.8	3.0	3.4	3.3	2.6	3.0
Faster exchange of information on contractors	3.1	3.0	3.2	3.4	2.8	3.4	3.1	2.8	3.3

*Note* As in Table 3

*Source* Author's own table



## 4 Findings

One of the research questions posed by the authors was to obtain information whether the liberalization of the services market in the EU contributed to increasing the competitiveness and innovation of the service enterprises surveyed both on the domestic market and on the CEEC market. According to the respondents, liberalization of the services market contributes to increasing the competitiveness of Polish service enterprises on the domestic market (21%), especially on the CEEC market (58%), with 21% of the respondents presenting, however, a different view. The influence of liberalization on raising the level of competitiveness on CEEC markets was indicated primarily by respondents representing large enterprises (58%), providing construction services (67%). In the case of innovation, 21% of the respondents indicated that liberalization of the services market contributes to its increase on the Polish market, 47% of the respondents (i.e. less than in the case of competitiveness) pointed to the CEEC market and 31% of the respondents were of the opposite opinion (especially large enterprises 44%,  $p < 0.05$ ). The impact of liberalization on raising the level of innovativeness on the markets of CEEC was mainly indicated by the respondents representing medium-sized enterprises (53% of responses), providing training, educational and information services (60% of responses). In this respect, however, it is worth paying particular attention to medium-sized enterprises (31%,  $p < 0.05$ ) and those that provide commercial services (37%,  $p < 0.05$ ). Thus, one may formulate a thesis that the internationalization of Polish service enterprises does not generate the desired development effects for the companies operating in Poland.

The responses regarding innovation are in line with the Eurostat data (2019). It may be assumed that the low innovativeness of the surveyed enterprises is influenced by strong price competition, strong competition regarding product quality, opinion about it or about the brand, as well as lack of qualified personnel or lack of sufficient financial resources. One may claim that in many of the surveyed enterprises there is an undiscovered potential for innovation.

A highly relevant objective of the study is to recognize the factors stimulating and limiting the innovativeness and competitiveness of Polish service enterprises in the EU markets, including the CEEC markets. The two most important aspects were ( $p < 0.05$ ): investment in human capital and optimization of processes (Table 4). Priority was given to in the case of the factors limiting innovativeness and competitiveness: bureaucracy, financial factors and others. However, we should also note that many respondents could not indicate the factors stimulating innovativeness and competitiveness of Polish service enterprises, as well as those limiting such activities.

It emerges that the significant barriers to the internationalization of service enterprises, in particular, among the companies in the SME sector, are the unawareness of the benefits resulting from exports, the uncertainty associated with the lack of knowledge about foreign markets or lack of financial resources. It is important to note that the enterprises of the SME sector constitute 99% of all companies in Poland, and they generate nearly 49% of GDP. The importance of SMEs in the global services

trade is also increasing, due to the high flexibility, the possibility of fast adaptation to the changes in customer preferences.

With regard to the benefits of liberalization of the services market with regard to external factors, large enterprises indicated mainly a larger market (especially those that provide specialized and business services— $M = 4.0$ ), higher prices on the European market as well as faster handling of formalities ( $p < 0.05$ )—Table 5. The fore-mentioned companies from the specialized services sector noticed a reduction in bureaucratic procedures and the possibility of simplifying procedures ( $p < 0.05$ ).

One of the indicated benefits was the access to information via Points of Single Contact (PSC), which was especially significant for medium-sized enterprises ( $p < 0.05$ ). The effect of the implementation of the Services Directive was obligatory creation of a PSC in each member state. They are to act as support for business by streamlining administrative procedures in accessing the services of other countries. They constitute significant elements, next to the aspects related to structure, competence and awareness systems affecting the internationalization of services. The respondents indicated the desired directions of activities within each of the above-mentioned areas. Considering the system elements, the respondents commented on, among others, the EU e-Government Action Plan 2016–2020 Accelerating the digital transformation of government (European Commission, 2016).

Taking into account the internal factors, the benefits resulting from liberalization of the services market were first and foremost noticed by large and medium-sized enterprises as well as those providing specialized services related to business operations and commercial services—Table 5. Representatives of medium-sized enterprises highly rated, among others, the opportunity to gain new orders, establish business contacts and increase turnover. On the other hand, the opportunity to develop the company was primarily indicated by large enterprises, as well as by the representatives from the sector of specialist services and business-related services. The factor related to the possibility of expanding the service offer was significant for enterprises in the commercial services sector.

A similar analysis was carried out with respect to threats (Table 6). Taking into account the external factors, small enterprises opted for excessive bureaucracy ( $M = 3.2$ ). Also, they felt lack of support from the state or administration ( $M = 3.0$ ) and feared that Poles were perceived as inferior service providers ( $M = 2.8$ ,  $p < 0.05$ ). Importantly, the last factor was also indicated by enterprises specializing in the provision of craft services and in the field of tourism, accommodation and catering services ( $p < 0.05$ ). Medium-sized enterprises indicated a change in exchange rates ( $M = 3.1$ ) and more competition ( $M = 3.1$ ), while large enterprises chose excessive bureaucratization ( $M = 3.6$ ,  $p < 0.05$ ), exchange rates ( $M = 3.6$ ,  $p < 0.05$ ), too complicated regulations ( $M = 3.3$ ) and lack of clear regulations ( $M = 3.3$ ). The last factor together with the exchange rate fluctuation ( $M = 3.1$ ,  $M = 3.6$ ,  $p < 0.05$ , respectively) were in particular indicated by specialist and business services enterprises.

Considering the internal factors, the biggest threat for small enterprises posed by the liberalization of the services market was too much competition ( $M = 3.2$ ,  $p < 0.05$ ) and the gap in technological development ( $M = 2.9$ ,  $p < 0.05$ ), whereas

**Table 6** Average scores related to threats resulting from services market liberalization in the opinion of enterprises according to the size of the enterprise and type of services

Threats	Size of enterprise			Type of services					
	Small	Medium-sized	Large	(1)	(2)	(3)	(4)	(5)	(6)
<i>External factors</i>									
Changes in currency exchange rates	2.6	3.1	3.6	3.1	3.3	3.2	3.6	2.6	2.9
Higher competition	2.9	3.1	2.9	3.0	2.8	3.0	3.2	2.8	3.1
No support from the state, administration	3.0	2.8	3.0	2.8	2.6	2.8	3.3	2.9	3.1
Perception of Poles as worse service providers	2.8	2.2	1.8	2.2	2.3	2.8	1.7	2.6	2.4
Eastern EU markets are very difficult	2.4	2.4	2.4	2.3	2.2	2.8	2.5	2.3	2.6
Western EU markets are very difficult	2.3	2.3	2.4	2.3	2.4	2.5	2.4	2.1	2.6
Insufficient promotion of Polish service providers, economy	2.5	2.4	2.9	2.4	2.8	2.8	3.0	2.5	2.3
Poles are perceived as cheap labour force	2.6	2.3	2.1	2.3	2.4	2.3	2.2	2.5	2.3
Still too much bureaucracy	3.2	2.8	3.6	2.8	3.4	3.3	3.4	3.1	3.7
Lack of clear regulations	2.4	2.4	3.3	2.7	2.8	2.3	3.1	2.5	2.0
Too complicated regulations	2.6	2.6	3.3	2.7	3.3	2.4	3.2	2.5	2.7
<i>Internal factors</i>									
Language barrier	2.8	2.4	2.9	2.3	3.0	2.9	3.1	2.6	2.9
Other standards of providing services	2.6	2.4	2.7	2.6	2.4	2.4	2.8	2.4	2.9
Too high manpower requirements	2.5	2.3	2.2	2.3	2.1	2.0	2.4	2.5	2.5
Gap in technological development	2.9	2.3	2.2	2.4	2.4	2.9	2.2	2.7	2.6
Low level of clients' openness to Polish enterprises	2.1	2.2	2.6	2.2	2.9	2.0	2.5	2.1	1.8
Too high costs	2.6	2.6	3.1	2.8	2.9	2.6	3.0	2.4	3.0

(continued)

**Table 6** (continued)

Threats	Size of enterprise			Type of services					
	Small	Medium-sized	Large	(1)	(2)	(3)	(4)	(5)	(6)
Problems with payment for services provided	2.7	2.2	2.9	2.2	2.9	2.3	2.8	2.7	2.7
Imbalance between quality and price	2.7	2.3	2.4	2.3	2.4	2.4	2.2	2.6	2.9
Too high competition	3.2	2.4	2.7	2.3	2.7	3.1	2.8	3.2	2.6
Limited access to information	2.7	2.6	3.1	2.8	2.7	2.6	3.1	2.7	2.6
A significant inflow of foreign enterprises	2.3	2.6	2.7	2.6	2.3	2.3	3.1	2.4	2.1

*Note* As in Table 3

*Source* Author's own table

for large enterprises, they included excessive costs, too little access to information and problems with payment for services provided ( $M = 3.3, 3.1, 2.9, p < 0.05$ , respectively). Enterprises in the tourism sector and accommodation and catering services, similarly to small companies, pointed to excessively strong competition ( $M = 3.2, p < 0.05$ ).

## 5 Conclusions

The present study has established that the liberalization of the services market in the EU has contributed to increasing the level of innovation of Polish service enterprises (especially medium-sized ones offering commercial services), but mainly on the domestic market. Large enterprises did not notice such changes at all ( $Q_1$ ). The competitiveness of enterprises is noticeable in the CEEC markets.

On the whole, factors stimulating and limiting innovativeness and competitiveness are not easily distinguishable, and however, if one had to list them, the following elements would be included: investment in human capital, optimization of processes (stimulating) and bureaucracy, financial factors (limiting).

Both the benefits and threats resulting from the liberalization of the services market of Polish service enterprises operating on the markets of other CEEC differed with regard to the size of the enterprise and the type of services provided ( $Q_2$ ). The representatives of the surveyed enterprises highly appreciated the benefits, especially internal factors, i.e. the possibility of company development, the possibility of establishing business contacts and the increase in efficiency. They were especially important for large and medium-sized companies offering specialist services and business-related services as well as commercial services. Many of the benefits can be applied to the Services Directive, although entrepreneurs did not always identify these relationships. When it comes to the threats, external factors were rated high, such as excessive bureaucracy and exchange rate fluctuations. External and internal factors were important for large and small enterprises, especially those providing specialist and business services, tourist services, accommodation and catering services, as well as craft services. In conclusion, it may be stated that enterprises operating in the CEEC are experiencing new development opportunities, which affect their competitiveness and innovation. Despite the fact that Poland is not at the forefront of the CEEC in terms of innovations, positive trends of changes should be noted.

Internationalization of service enterprises according to the size of the company requires both overcoming numerous limitations and barriers on the part of potential exporters as well as providing an effective business environment (see Gonzalez-Perez, Velez-Ocampo, & Herrera-Cano, 2018; Lejárraga, López Rizzo, Oberhofer, Stone, & Shepherd, 2014). The findings of the study lead to the conclusion that what constitutes significant barriers to the internationalization of services, especially among Polish small and medium-sized enterprises, is lack of awareness of the benefits of entering EU markets, including CEEC markets and fear of insufficient knowledge of foreign markets and lack of financial resources. The results of the study may be

helpful to business practitioners when considering the decision to start operating in CEEC markets. They have confirmed the thesis that providing service in another country creates an opportunity for development, stimulating the innovativeness of enterprises and transferring experiences drawn from other countries' markets to the domestic company.

The decision related to undertaking the economic activity in the territory of another country requires knowledge, mainly in the field of marketing, law, new forms of management, which makes it possible to effectively compete with foreign entities on their own markets. This is also connected with the tendency to take risks and undertake innovations in many different areas. It is essential to indicate that the above said knowledge refers to the familiarity with a particular market, the awareness of important cultural differences, establishing and using contacts, recognition of the needs of customer and business partners. The PSC can play a crucial role in providing required information to the parties interested in engaging in the new activity.

In the source literature, many authors discuss the process of liberalization, internationalization of services or the Services Directive. Yet the present authors have not encountered a study which would demonstrate what benefits and threats resulting from the liberalization of the services market are observed by enterprises (small, medium-sized and large) operating on the markets of CEEC.

However, considering the social and cultural conditionings of conducting business activity in Poland and in other CEEC, it is difficult to clearly indicate whether in the future Polish economy will be based solely on medium-sized service enterprises.

The nature of the findings obtained in the study is both scientific and cognitive as well as applicable. The authors point to the potential benefits and barriers of entering the CEEC markets, which may be helpful for other service enterprises considering the decisions related to the internationalization of their operations. The obtained findings should be helpful to other representatives of state and local government bodies, business support institutions engaged in promoting the Polish economy in the CEEC markets. They can be used by the business environment institutions, in particular, those creating the policy framework related to the development of entrepreneurship, as well as those responsible for shaping the proper conditions for businesses to benefit from the liberalization of services. The adopted Services Directive is not static, and it is being developed and adapted to meet the needs of the changing environment. This means that the experience of the companies, even if they constitute a limited group, can be used to discuss and improve the legal regulations. Many critical opinions which have been addressed to the officials who should be supportive towards the entrepreneurs, in particular in the case of companies with limited market experience. Undoubtedly, the PSC require more effective promotional activity, especially that many respondents indicated the necessity to create a platform to exchange information (with reliable, regularly updated data, where questions might be asked: via a telephone, online service—a forum or via an e-mail), as well as the use of modern technology for better information flow—e.g. developing mobile applications that facilitate information search.

182 enterprises took part in the study. The results can therefore be regarded as the initial stage, which requires further research, analysis, comparison and inference.

Perhaps the research carried out in each of the CEEC would be interesting as it could lead to collecting factual material facilitating determination of the differences between individual countries not only in the perception of benefits and threats, but also in the perception of the functioning of PSC.

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# Blockchain Technology: Adoption Perspectives in Tourism



Marco Valeri

**Abstract** The aim of the paper is to ascertain whether the blockchain technology represents a functional tool for better governance of the tourism system. Innovation adoption has been widely debated among scholars in order to identify variables and models that boost adoption processes within touristic firms. Although the blockchain technology is at its first stage of development, thanks to instruments such as cryptocurrencies, smart contracts, and decentralized applications, it has already a significant impact on tourism business deals. The paper is based on selective literature on the topic and aims at providing a brief review of its progress. It also offers a number of suggestions for research directions yet to be adequately investigated. The innovative factor of the paper lies in offering a complete overview of the current extent of application of the theories of blockchain technology in tourist sector.

**Keywords** Hospitality · Network science · Blockchain · Tourism management · Competitive advantage

## 1 Introduction

The breakthrough of blockchain technology has generated various possible innovations in managing business activities across different industries (Kwok & Koh, 2018; Nam et al., 2019; McKercher & Prideaux, 2014). With the emergence of process automation, manual business operations have been converted into electronic communication and processing through information and communication technology (ICT) (Macpherson & Holt, 2007). Nevertheless, over time the process design has been limited to a centralized framework. Centralized operations include various challenges linked to a proper selection of technologies, such as electronic data interchange (EDI), value-added network (VAN), business intelligence (BI), and big data assimilation. The rise of a distributed framework, i.e., blockchain, has not only allowed the attainment of transparency in transactions and paved the way to a major

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_3](https://doi.org/10.1007/978-3-030-35415-2_3)

collaboration, but also enabled the recording of peer-to-peer (P2P) business deals on a common repository. As a consequence, this has meant that the stream of information and currency may depend on the agreement of participating nodes, where a third trusted party, such as banks and clearing houses, is no longer required. Business process activities are heading toward a more uncertain, interrelated, and automated worldwide network, while concurrently being redesigned to decrease the number of intermediaries (Chang et al., 2019).

Blockchain technology (BCT) is a system based on networks and has been created to design safe, smart and clear distributed ledgers. Lately, BCT has been earning more relevance in the travel and tourism sectors by means of recently developed instruments such as smart contracts, decentralized applications, and cryptocurrencies. With the advent of the Internet, the tourism industry has changed radically, tourists, thanks to these technologies, are now able to plan, choose, buy and manage their travels, in total freedom and with a significant reduction mediation by specialist operators (Ozdemir et al., 2019). With the aim of satisfying customers' requirements, the tourism industry has been forced to merge money, technology, and expertise to create original and avant-garde platforms (Önder and Treiblmaier, 2018).

At the same time, companies, such as Booking, Expedia, and many others, are transforming their conventional business models as Business-to-Business-to buyers. Additionally, to this transformation, the internet era has been innovating the entire market, following the model for most famous consumer-to-consumer companies, like eBay, in this way, projects like Uber, Airbnb, Couchsurfing, and Homeaway, have been created to meet customer needs.

According to some studies (Nowiński and Kozma, 2017) with the use of DLT technologies and in particular the use of Smart Contracts has made a big acceleration to the sharing economies, so now smart marketplaces are possible. The new disintermediated marketplaces that give the intermediary a greatly reduced role, making the third-party function as a guarantor no longer necessary. In some cases, this figure is completely absent can be shared and sold automatically on smart marketplace using Blockchain.

The paper is structured in two parts: the first part analyzes the blockchain theoretical framework, the second part analyses current state applications of the blockchain in the tourism sector and potential and its critical issue.

## 2 The Advent of Blockchain

Between 2007 and 2008, the world was shaken by the financial turmoil caused by the chain of economic downfall caused by bad debts that triggered a crisis that had not occurred since the Great Depression. During this period, the world experienced the weakness and uncertainty of a closely interconnected and heavily indebted global financial system. In reaction to these circumstances, in October 2008, Satoshi Nakamoto published a white paper on a mailing list (Nakamoto, 2008), presenting the topic of blockchain to the world, defining the advantages of a currency exchange

system named bitcoin. Up to now, bitcoin and other cryptocurrencies are essentially the most widely accredited use case of blockchain and then considered as an acceptable starting point to unravel the operational foundations of technology (Hughes et al., 2019; Wang et al., 2019; Woodside et al., 2017).

The blockchain was originally conceived by Satoshi Nakamoto to solve some problems related to electronic transactions. In 2008, Nakamoto introduced two ideas that had a substantial impact, offering opportunities for further innovations. The first idea refers to the “bitcoin” currency, a digital currency that operates on a peer-to-peer, decentralized, cryptographically secure, immutable, without any government or other central support. The second idea was the notion of blockchain. Blockchain has been defined in several ways: the main accepted definition is that it is a distributed ledger. Distributed ledger technology (DLT) is a common terminology representing all technologies that spread information across diverse sites, nations or institutions and comprises blockchain. A blockchain refers to an open, shared, decentralized, and scattered ledger in which business deals are registered and listed in temporal order with the objective of developing tamper-proof permanent records (Nakamoto, 2008).

Blockchains are combined in nodes located on a communication network that uses a number of shared communication standards: every single node in the network saves a duplicate of the blockchain and a consent function is put in place to assess that business deals maintain the irreversibility of the chain (transactions cannot be modified).

Blockchain technology is a distinctive tool that does not need a central server to stock data. Provided that the network gains consensus on previous transactions, it accordingly acts as a server to store the data. In case a fraudulent partner decides to modify the former accepted data, the majority of the network participants rapidly reject it (Hughes et al., 2019).

Blockchain technology diverges from most present information systems because it incorporates four fundamental characteristics: decentralization, security, verifiability, intelligent execution (Saberri et al., 2019). A blockchain is an encoded digital book-keeping system that is saved on several different computers in a network that can be either public or private. As soon as a transaction takes place, it is deposited in a block. Every single block is linked to the block prior and subsequent to it. Each block is annexed to the adjacent one in an immutable chain and the dealings are locked together. The terminology “blockchain” actually derives from this peculiarity. The current blockchain could be compared to the adoption of the internet for commerce several years ago that emerged in a disruptive way in many established companies and heavily influencing supply chains (Treiblmaier, 2018).

The advent of blockchain is considered a digital revolution but at the same time, it is a natural consequence of the development of the Internet (Firica, 2017).

A significant distinction between the present configuration of the Internet and blockchain technology lies in the fact that the Internet is outlined to transfer information (not value) and duplicates of files (not original information). In blockchains, value is inherent in transactions saved in an allocated and protected ledger by providing checkable and secure records of transactions with relevant timestamps. These

transactions are displayed by means of an assessment process that needs to be coherent with network consent regulations. When the new record is authenticated and annexed to the blockchain, multiple duplicates are generated in a decentralized method to develop a chain of trust (Saberri et al., 2019).

Two principal kinds of blockchain stand out when it comes to accessing control: the blockchain can be either public or private (bitcoin uses a public version). Within a public blockchain, any transaction is open and has unlimited access (“without authorization”) and users can keep their anonymity. Being public, each user can join it without requiring permission from other members. In order to motivate members to join it, the network commonly makes use of an incentive mechanism. Bitcoin and Ethereum represent cases of public blockchains. In the case of approved blockchains, those who want to participate have first to get an invitation or permit to join. Access is managed and regulated by either a consortium of members (consortium’s blockchain) or a single organization (private blockchain) (Wang et al., 2019).

An important innovation generated by blockchains is smart contracts; they are self-managing contracts. Once defined, they do not need a person or notary to verify their implementation, they self-execute when established conditions occur, for example, pay due to compensation or initiate an expected action.

Smart contracts have made possible the birth of what is known as “Smart Marketplaces”, which allow operators to carry out the disintermediation of transactions, thanks to the technology that has characteristics called “trust-less”, that is, it does not need a transaction validation. The world of connected sensors (IOT) introduces the opportunity to certify events that happen, allowing their active use through Smart Contracts. With the blockchain, the data recorded by the sensors also assumes the typical characteristics of the blocks of the chain, becoming immutable and distributed. Imagine, for example, the certification on the punctuality of a train, which records on the blockchain GPS data related to the displacement, making public the verification of the actual arrival data at the stations, triggering a smart contract, which provides reimbursement for the traveler, when a condition of delay, contracted with the users, occurs.

Blockchain technology (BCT) is a very innovative technology and is proving to be able to force practically any sector to adapt to change, including tourism. Both professionals and researchers are struggling for finding new perspectives to adapt this metamorphism in travel and tourism industry where customer satisfaction is taken into great account. Through social media, users have the opportunity to share their opinion and experience with their peers in a very easy and direct way. This may produce a number of issues such as fake reviews, data privacy violations, and other frauds. BCT can represent the right tool to solve these kinds of problems thanks to its features, that can be summarized in privacy, transparency, security, and trust (Ozdemir et al., 2019).

### 3 Blockchain and Tourism

Due to the increasing use of digitalization, tourism industry will most likely change in a significant way in the coming years. This will determine an equally significant change in the requirements of consumers of travel and tourism products and services. In addition to blockchain, other cyber applications, such as artificial intelligence and virtual reality, will be put in place in the tourist sector (Zsarnoczky, 2018).

Regardless of the growing popularity of blockchain, there have been few inquiries focusing on blockchain and its implementation in travel and tourism industry (Ozdemir et al., 2019).

Despite the lack of existing academic literature, in particular about implications in business, a large number of intellectuals acknowledge that the transactional and financial consequences of the blockchain will considerably affect many areas (Öndera and Treiblmaier, 2018). For instance (Polukhina et al., 2019) presents a case study in the current Russian tourism project *TravelChain* which aims to create a new tourism ecosystem. Using the available data and information, they analyze the causes of costs, and options for reducing it using the blockchain, for example, in the tourism industry. The Russian project *TravelChain* is envisaged for the creation of a unique database of tourists. The platform allows its users to store personal data in encrypted form, and the digital footprint (countries and places that a tourist visits, restaurants, and cafes s/he eats at, and what kind of recreation s/he prefers) in the open form. Such an integrated decentralized global registry which shows both global trends and the wishes of each anonymous user will allow each business to analyze market needs and make unique proposals according to B2P system principles. Travel Token is fuel for smart travel ecosystems. By using tokens, companies can receive processed data from an AI service; by transferring Travel Token as payment, users can share data with other *TravelChain* members who use web services or applications, thus they receive Travel Token in return; services can use Travel Token and exchange data between themselves using access keys.

The system works in the following way from a business point of view: the owner of a hotel or a restaurant chain wants to attract new customers. Cooperation with a marketing agency and expensive billboards in the city center yield very little result. The owner of a hotel or a restaurant pays for access to the *TravelChain* database and analyses the inquiry market. The information is essential; moreover, you can trace a certain demand for the specialties that your place is famous for. The owner sends a request for personal information of potential customers, who have shown preferences for that particular product in their accounts, pays with Travel Tokens, and thus further communicates with a customer who is interested in restaurant's offers. As a result, owners are enjoying new customers, while customers are taking pleasure in delicious food, good service and new tokens on their balance sheet (Polukhina et al., 2019).

Mofokeng and Fatima, (2018) deem Blockchain and cryptocurrencies as a system of payment that will influence trends in tourism industry of the coming years. In Thailand, the tourism industry represents a key factor in the progress of the cryptocurrency market, along with fraud-weary tourists more and more looking for salesmen

who accept Bitcoins as a system of payment. Dubai Tourism, which is the marketing branch of the Emirates Government that advertises leisure travels in that area, will be launching, within the next 2 years, the blockchain system in a business-to-business market place in an attempt to raise tourism numbers as the region steps away from dependence on oil earnings. In Russia, the leader of the Federal Agency for Tourism, Oleg Safonov, has foreseen that blockchain technology will reshape Russia's tourism market.

Önder and Treiblmaier, (2018) have suggested three research propositions about blockchain in the tourism industry. In brief: Proposition 1: updated methods of rating and review technologies will conduct to more reliable evaluation systems; Proposition 2: the extensive use of cryptocurrencies will point to new models of C2C markets, and Proposition 3: BCT will lead toward major disintermediation in the tourism industry. They have claimed that responses to these propositions would contribute to a new expression of tourism industry in blockchain perspective (Ozdemir et al., 2019).

Kwok and Koh, (2018) study how the choice to adopt the blockchain technology in small island economies can affect the chances and possible challenges, suggesting hands-on solutions for tourism stakeholders.

Pilkington and Crudu, (2017) have claimed how blockchain, thanks to tourism 2.0, can be applied to reduce poverty in a difficult country like Moldova. According to these authors, the rigid nature of blockchain may help attenuate poverty with tourism 2.0 by removing corruption issues in Moldova.

Given all the features and possibilities of Blockchain technology, tourism is one of the sectors that benefits most from technological advances, making it a dynamic industry that adapts quickly to change: the benefits offered by this technology are countless because they allow to facilitate business processes and making them faster and cheaper, among which we remember:

- (1) easy, secure and traceable payments: all transactions made via blockchain remain registered in the chain and cannot be changed. Furthermore, as this is a decentralized system, there will be no intermediaries that could cause inappropriate interventions or late payments;
- (2) coordination and management of hotels and transport: decentralized management systems could result in significant savings for large companies because they would nullify the presence of intermediaries;
- (3) identification and security: with blockchain technology passengers would no longer need to show their identity card at various stages of the journey. You can create a shared digital database that can save and verify traveler information, speeding up validation times;
- (4) reward systems: another application that deserves to be named is the loyalty card application. Many travel agencies create loyalty programs for their customers with the goal of turning them into regular customers. Blockchain would facilitate these processes and allow customers to verify their points and, for example, exchange them for cryptocurrency;

- (5) luggage tracking: during a trip, especially if international, the baggage is handled by multiple companies or operators and each step must be coded and checked. The use of a decentralized database facilitates the sharing of tracking data between companies, minimizing the chances of luggage being lost. The blockchain could become very useful to track the location of our luggage once we leave it at the check-in counter and keep it monitored, knowing then always where it is.

Some of the biggest global companies in the digital economy, thanks to the large availability of funds to invest in innovation, are in fact thinking about the use of blockchain and cryptocurrencies to enable new exchanges and promote their own platforms, such as a financial marketplace.

## **4 Application Perspectives in Tourism: Potentiality and Criticality**

Blockchain can be used as a simplistic means of business activities to increase efficiency and effectiveness, enabling access control and logging of activities, tracking the flow of products and real-time monitoring of business operations and synchronizing up-to-date documentation in a particularly tight timeframe, thereby reducing business frictions and allowing you to monitor the stages of the business process provisioning, the billing chain, the implementation of solutions for enterprise storage management and the discovery of the problem-affected plant.

However, there are two main challenges that will need to be addressed: the first is the identification of the person. Information in the blockchain is securely accessible and stored, but if block mismanagement occurs, anyone could have access to people's sensitive data.

Similarly, standardization could also be a big barrier. Although blockchain acts as a core technology, any company, organization or community could create its own network and include its own algorithms (just like with cryptocurrencies), making communication between different systems difficult.

Further current challenges are the need to understand how to improve and validate the data chain, the point at which the set of nodes begins, and privacy, which still require technical solutions.

There are several benefits that blockchain technology can accrue to the tourism sector:

- (a) it is a type of currency which does not need ATM transactions or currency change;
- (b) it removes the struggle for travel operators to be charged with extra transaction payments;
- (c) it permits consumers to buy goods and services instantly and effortlessly;
- (d) it helps shorten the waiting times of travelers;
- (e) it is extremely validated and protected;

- (f) it simplifies and makes it more advantageous for travel operators to arrange tours;
- (g) it is, as well, an excellent system to boost brand loyalty among market segments (Mofokeng & Fatima, 2018).

Although DLT technologies represent some of the biggest opportunities since the explosion of Internet and ecommerce, we think there are a number of criticalities that are to be considered carefully, which reduces the benefit mentioned above in this article:

- (a) the transition from existing vertical marketplaces, like Airbnb, booking an Uber to the same number of vertical blockchain does not reduce technology complexity, each BT need a separate DAPP;
- (b) each blockchain works in isolation with others, so, integration is still not available to permit the creation of a smart marketplace with all tourism service available (travel, hotels, rental cars, etc.);
- (c) the cost of the blockchain in terms of energy and the cost of mining could be considered similar to the cost of today intermediation from big firms like booking and others.

## 5 Conclusions and Limits

The paper can offer a contribution in terms of additional exploration and reflection of the outcomes of previous studies and researches on blockchain technology in the tourism sector.

We have shown how the latter has become solidly integrated within the management science. However, on the other hand, research on blockchain adoption still needs to be expanded in tourism, also with a more grounded critical inspection of the technical aspects in order to assume better-informed opinions. Our results thus eventually emphasize the potential of such a field of research to contribute to understanding SMEs' behavior, performance, and growth substantially more than it currently does.

Although we are aware of the limitations in our analysis, we believe it offers the possibility to make progress and push this domain beyond the boundaries of our research.

However, in order to corroborate our findings and reveal additional patterns, we encourage future research to extend and deepen this content analysis.

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# A Systematic Literature Review on Women Entrepreneurship in Emerging Economies While Reflecting Specifically on SAARC Countries



Sumayya Rashid and Vanessa Ratten

**Abstract** Women entrepreneurship is the emerging phenomenon of twenty-first century. Women are working hard to not raise their living standard but also support their families. A lot of work has been done in developed countries regarding women entrepreneurship. It is necessary to find out what are the issues women must face in emerging economies. The purpose of this study is to review the literature on women entrepreneurship in emerging economies especially SAARC countries in last 23 years. This study will also critique the extant body of women entrepreneurship. With the help of identified aggregate dimensions, future studies will be shaped. A systematic literature review (SLR) has been undertaken across 23 journals present on the database SCOPUS. The initial search shows a total of 180 articles on the topic of interest. After refining the articles, a total of 76 articles have been selected to perform SLR. GIOIA methodology has been used to analyze the data of 76 articles. First-order concepts were collected directly from the articles. Second-order themes have been shaped on the basis of first-order concepts. Hence, aggregate dimensions have been made to summarize and contextualize the whole analysis. Separate analysis has been done on emerging economies and for the SAARC countries. Within the 76 articles of emerging economies, articles were separated based on the countries of SAARC Region. A total of 30 articles were obtained. Analysis has been done to study the context of South Asia in particular. This SLR finds that every region has its own social and cultural challenges affecting differently to women entrepreneurs. The dynamics of developing countries are very different from developed countries. The key elements of the future research implications of this study call for more qualitative and quantitative research. It will help to provide more insights a holistic view of the real stories and will help to understand the phenomena better. This paper presents the SLR of women entrepreneurship in emerging economies in focus to SAARC countries. This paper only describes, analyzes and critiques the existing literature found on a database SCOPUS. It also highlights the areas where there is a huge gap

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_4](https://doi.org/10.1007/978-3-030-35415-2_4)

in literature. Hence the topic of interest has been established as worthy investigation in its own right. In the end, SLR provides future research directions in studying the phenomena of women entrepreneurship in emerging economies.

**Keywords** Women/female entrepreneurship · Women/female/gender entrepreneurs · Emerging economies · SAARC countries

## 1 Introduction

Scholars have addressed and highlighted the importance of women entrepreneurship after their pertinent investigations. Economic development in current knowledge-based economies has increased the demand for every working member of the society to be part of labor force. Scholars have reiterated the fact that the productivity of the country or any organization improves when it uses its maximum potential from men and women both.

This study focuses on the literature of women entrepreneurship in emerging economies for the last 23 years. Many studies have been found analyzing the phenomena of women entrepreneurship in developed countries. However, there are very less studies done on emerging economies. This research is an effort to study the existing literature on women entrepreneurship in emerging economies. Many researchers, scholars, and academicians have invested their intellectual efforts to study each emerging economy with its own socio-cultural factors. This research will focus on analyzing the existing (published) literature for future insights.

This study is focused on exploring the trends and dimensions of women entrepreneurship. In order to support the exploration, it is important to position the existing literature around the same area to specify its knowledge domain. Since majority of literature concentrates on issues in developed countries, the authors have narrowed down their attention on exploring the phenomenon of female entrepreneurship through the experiences of emerging economies as a super set and SAARC countries as a subset in the research.

Entrepreneurs are the key figure when it comes to economic development of any country. Entrepreneurship is felt as developed and progressive idea for modern competitive world. Therefore, entrepreneurs are focusing on developing diverse opportunities for future generations. It is very necessary for human being to exploit their resource at optimum level. Exploiting resources is one of the biggest challenges companies have to be faced in the contemporary economic world.

The entrepreneurship concept was originated at the start of eighteenth century. It emerges from the French word “Entreprendre”. The person who takes up the risk of enterprise is called entrepreneur. Discovering new opportunities and maximizing those opportunities to improve the environment is called entrepreneurship. Different scholars have put the meaning of entrepreneurship according to specific context. Following is the summarization of few authors and theory views about entrepreneurship.

Eisenman (2013) describes entrepreneurship as “the pursuit of opportunity beyond resources controlled” it is not just funding towards the creation of new ventures but also focused on the growth of plans in hand. Dress et al. (1996) stated that Entrepreneurship makes improvements for the social and technological growth of a particular country. Gorman et al. (1997) observed a strong relationship between economic development and entrepreneurial education. Brown et al. (2002) stated that students who get entrepreneurial guidance and knowledge are more possible to project into practice.

Women, throughout the world, are working harder to earn their money. It is seen that women entrepreneurship is still unexplored and needs attention. Women are facing more challenges than their male counterparts, yet they are striving hard and undergo many paths before achieving success. It is also seen that technological advancement & means of communication has changed a global community. This advancement will create new opportunities for women thus exploring their potential aptitudes.

Entrepreneurship among women is an equalizing factor against social and economic inequalities. Women-owned business is believed to be rapidly growing entrepreneurial sector, and it is contributing towards economic and social growth through innovation, wealth creation, poverty reduction, stiffer competition, diversity of business, and utilization of untapped human capital. Despite promises of female entrepreneurship, significant gender differences still exist between male and female entrepreneurs. Women are believed to work in low growth sectors, and their business initiatives seldom grow beyond a certain limit due to financial constraints, work-family life balance, role conflict, cultural and social stereotypes, and unsupportive institutional environment.

Literature illustrates that social, cultural and institutional context of any country influences entrepreneurial activities of women. Culture and tradition shape attitudes towards working women in society. These social and cultural norms, sometimes, become barrier for female entrepreneurs. The situation gets worse when effect of gender characterization and other social stereotypes associated with females also comes into equation. Social norms force women to keep socio-cultural into consideration before entering into traditional jobs or starting a new business. They work in the occupations that are considered as socially acceptable for their gender. Female entrepreneurs are restricted to retail and personal service sectors which are operated from home. As a consequence, women-owned businesses mostly operate at micro-enterprise.

Despite these social and cultural pressures, women in the emerging economies are pushed to start their own business due to domestic necessities. Women in such countries turn towards entrepreneurship for survival, better earning, health and education for children. Due to their struggle, standard of living of their family gradually improves. Benefits of these entrepreneurial activities are not limited to only the family of entrepreneurs; rather, these women entrepreneurs are instrumental in poverty alleviation, unemployment reduction, and job creation. It has been argued in many studies that female entrepreneurs contribute towards the welfare of society through

their entrepreneurial ventures. Many social problems can be reduced significantly by providing greater opportunities to female entrepreneurs.

Although, researchers unanimously accept the importance of women entrepreneurs in producing social and economic changes; less is known about how women entrepreneurs achieve this remarkable feat. Surprisingly, the extant literature on female entrepreneurship is silent about this journey. This is because women entrepreneurship is still an understudied domain of entrepreneurship especially for emerging economies (Brush, Bruin, & Welter, 2009). Research has been found in developed countries where they study the phenomena of women entrepreneurship in detail. However, the dynamics of emerging countries are completely different. Brush and Cooper (2012) note that research work on female entrepreneurship covers just 10% of the entire research studies on the subject of entrepreneurship. Much of theoretical frameworks in the literature of entrepreneurship have emerged from Western countries. Very little theoretical contribution has been originated from developing countries. Research in emerging economies may contribute to the advancement of theory building in the literature of entrepreneurship.

According to Ahl (2006), research on female entrepreneurship has suffered due to a lack of new theoretical grounds. This is because researchers on the subject are still relying on old concepts, constructs, and frameworks. Theory advancement in the field of entrepreneurship is rather stagnant, because of the inability to come up with new concepts. This may be attributed to the inclination of the researchers to design and execute theory development by using traditional positivist research philosophy. Although this approach has served in theory testing and developing parsimonious models, further theory development is not possible with it.

For instance, earlier entrepreneurship researchers have frequently used the classical venture creation model organized around three constructs, i.e., market, money, and management. However, Brush et al. (2009) turned this 3M into a gender-aware framework by adding two more constructs namely motherhood and meso/macro factors. This 5M model is pursued religiously by researchers as they applied this framework to different settings. However, this 5M framework has focused more on the external factors and ignored aspect, i.e., "man". The individual characteristics of the entrepreneurs considered highly pertinent are not present in this framework. To the best of our knowledge, no attempt has been made to either refine the 5M framework or propose new framework for female entrepreneurs.

Earlier research on entrepreneurship appears to be more influenced by economics as more theoretical perspectives have been borrowed from economics. For example, the success of a business venture is usually determined on the basis of its profit, opportunity, and growth. Consequently, early researchers have understandably given more importance to the financial measures of success. But, lately there is a shift in the orientation of researchers as softer issues such as motivation for starting own business, and non-economic definitions of success are gaining more attention. It is well established that women are more likely to pursue entrepreneurial activities due to personal, family and social benefits. Researchers have started to acknowledge the contribution of women entrepreneurs towards social well-being of their families and others. The economic and financial measures of success are irrelevant to gauge

effectiveness of women-owned businesses because female entrepreneurs give more value to social goals. Defining entrepreneurship as a driver of social change urges the research to move away from economic logic. In this time, it is more suitable to ask provocative questions regarding motivation for females to become entrepreneurs and associated social benefits from entrepreneurial activities.

Research questions prompted to study the phenomenon of female entrepreneurship from the perspective of sociology. According to some scholars, women entrepreneurship lacks theoretical support from sociology. This is rather astonishing as entrepreneurship is described as a socially embedded phenomenon. Although, the economic theories of entrepreneurship have served well; a better explanation can be obtained by considering social and cultural factors. Describing entrepreneurship as a social phenomenon allows the research to borrow concepts such as social capital and social networking from sociology, which in turn provide interesting insights into the studies involving entrepreneurs.

Female entrepreneurs are those who both own and manage the business with the goal of generating profits. In recent years female entrepreneurship has gained attention in the light of diversity of business for the economic growth and development of the country. This phenomenon not only brings employment creation in the country but also fulfills the self-achievement among the females and also contributes towards the multiplicity of entrepreneurship in the system. Various empirical studies have stressed the existence of gender gap in entrepreneurial activities.

## 2 Literature Review

Entrepreneurship is the process to expedite economic growth with the help of creative planning and decision making. It is an innovative human act that helps to improve living standards and per capita income of the country. Female workforce plays a significant role in the economic growth of any country. Females are involved in trade, commerce, household factories and agricultural activities. They are dedicated, courageous bold to take risk to establish their businesses. Although they face social pressures to efficiently manage their household activities equally still they are vigilant to work and become independent. A few decades ago it was hard to imagine females as an entrepreneur but now females are playing a remarkable role especially in the medium-small enterprises to boost the economic and social progress of the country. Female entrepreneurs plays powerful role but still the rate of female entrepreneurs are less as compared to masculine entrepreneurs. In spite of various stereotypes of Asian culture they are proving to be successful entrepreneurs as well.

Another additional feature is brand consciousness, our society is becoming brand conscious they like to wear brands even if the quality of local product is good, so without any marketing knowledge and strategy, it is very difficult for female entrepreneurs to sell product in such conditions. Obtaining loan from banks or funding institutes is also not an easy task for females as majority don't possess collateral on their names

to pledge in banks so they have to work hard double to get loans from funding institutes as compared to males. A handful of females can attain loans which also raises questions on funding institutes so there is a need to regenerate the whole system. Sometimes the females face trouble because of taboo of divorce or single mother as well.

Financial matters and non-financial decisions may affect the success of business more significantly so conclusively he accentuate an important qualitative feature such as work–life balance, dealings with stakeholders and customer satisfaction as significant for female entrepreneur’s success. According to one study, social factors such as family support, motivation proves to be great driven force for the success of female entrepreneurs whereas lack of training, required skills and education can bring hindrance in their way to success. Finance and lack of training are the main hindrance of female entrepreneur’s success. The psychological factors that affect female entrepreneurs and concludes that married females are more under stress as compared to unmarried females and the stress level of females lives in joint families are less because family members share their burden and hardships together.

The main factors that influence female entrepreneurs, is a dependency on families, less investment, high competition, less transportation facilities, misuse by middleman and lack of training and basic business skills. In one of the studies on Somalia, it was discussed that in spite of increasing numbers of female population various factors such as easy access to funds, lack of skills and technology to promote their product, lack of family support become hurdle in their way to achieve success. Shimla (2016) in her study in India has concluded that gender discrimination, lack of support from government institutes, and difficulties to access the capital for investment is the major problems that female entrepreneurs face and government should form policies to help the females entrepreneurs for the smooth run of their businesses. Nayak (2016) in his study explored the unique relationship between age of female entrepreneurs and their success and found no significant relationship between these two phenomena. Researcher further recommends female entrepreneurs should boost their knowledge with the help of training organized by funding institutes as well as government to enhance their profits.

### **3 Women Entrepreneurship**

Women entrepreneurship rose to prominence in 1970s when researcher started to think “entrepreneurship is a gendered phenomenon”. The domain has come a long way since then. Okafor and Amalu (2012) have classified female entrepreneurs into three categories based on their motivation and underlying reason to start own businesses. The first category is recognized as “chance”, second as “forced” and third as “created” entrepreneurs. The first category “chance” represents those entrepreneurs who start their business without any particular plan or goal. For these people, entrepreneurship is a mere passage of time, since their businesses are originated from their hobbies. The second category “forced” signifies those entrepreneurs who

entered into entrepreneurship due to different circumstances. They are mostly pushed to start their business, and in most of the cases, their primary motivation is certain particular financial requirements. These circumstances may include the family facing some financial problems, death of spouse. The third category “created” symbolizes those entrepreneurs who are encouraged, motivated and inspired by some internal drive and passion. These women entrepreneurs want to attain some personal goals while making good money at the same time. Only a small proportion of women, i.e., one fifth are driven towards entrepreneurship by some pull factors. These pull factors include the need for achievement, to be their own boss, the desire to pursue something unique and valuable, and to be independent and capable of doing better for themselves as well as for the society.

Presently, the number of self-employed females is steadily increasing, but most female-owned enterprises are still operating in low-value addition sectors. These sectors demonstrate low growth in profitability and market share. Women-owned business enterprises grow at a slower pace than their male counterparts. This is because women entrepreneurs face problems such as financing, management practice, growth strategies and entrepreneurial policies. According to Sara & Peter (1998) new female entrepreneurs can experience problem in obtaining start-up capital, credit guarantee, capital for investment. On the contrary, man engages more in entrepreneurship due to better access to capital. Unlike men, women are believed to be motivated by non-economic goals and spend more time pursuing social goals. Women are believed to have conservative attitude towards growth and their business plans focus on moderate expansion. It may be attributed to the “time constraints imposed by family responsibility”.

Existing literature on female entrepreneurship focuses on individual, social and institutional factors. However, individual factors alone are not sufficient to fully describe entrepreneurship. Population ecologist claims that the macro-level variables have bearings on new enterprise formation. Therefore, a more comprehensive definition of entrepreneurship should include social and contextual factors. This is more relevant for the study of entrepreneurship in women since “macro-level factors seek to explain (female) entrepreneurial venturing, growth, and change by considering a generic set of broader impersonal institutions, including political, economic, historical, social, cultural and educational institutions”.

Technological movement’s as well as change in business era explores opportunities for female to be a part of potential workers for their society and state by taking initiative of being an entrepreneur. Therefore, females are still facing many issues like finance, human resource challenges, resistance from the family members, security, and insurance of the business for becoming a successful female entrepreneur. Developing states have more existing phenomenon of female entrepreneurs where the conventionally higher birth rates overcome. According to Monolova (2008) the laws, customs of marriages also have a higher impact towards whether a female selected presence as an entrepreneur.

Literature revealed that female’s entrepreneurship as well the entrepreneurship is an encouraging phenomenon all over the world for overcoming the issues of economic challenges. Females are considered as the most important factor associated with the



great contributor or a potential capital resource in the economic development of any state. Based on the importance of female entrepreneurship the programs and policies are needed to be established not just for the promotion of entrepreneurship but also the supportive culture for the elevation of female entrepreneurship.

As women entrepreneurs face many difficulties in this so-called male dominating society, which involves rule and regulation of government, accessibility of finance absence, technological information, facilities and infrastructure, assets that empower their growth of business and efficiency. In 2010, the researchers have exactly claimed the experience of women's high restraints of economic on their actions as compared to men. Another author explains some aspects and reasons bounded women entrepreneurs abilities, and these factors should be identified that why business fails and take benefit of the opportunities accessible to them in the environment.

According to previous studies, these factors involve: financial management is poor, problems of liquidity, incompetence and inexperience management, records and books are non-existent or poor, problems of sales and marketing, unions difficulties, untrained staff, expert advice seek failure, business, and social limited social networks, demands are low level in local economy, accessibility lack of finance, lack of skill and work experience, role models nonexistence. Women entrepreneurship other barriers are obstacles of cultural, less motivation, problems and high rates of crime throughout the instability of government employment and benefits.

By nature, societies are endowed with changed surroundings, for the achievement success environmentally relevant forms of behavior must be adopted by the members of the society and different cultural values lead to these environmentally relevant patterns of behavior in different societies, for the creation of new business some of which influence to take the decision. So that, culture, as different social, political, economic circumstances or technological has significance for entrepreneurship behavior and economic.

Many scholars discovered that entrepreneurship cultural factors have a lot of influence on different viewpoints. In 2002, study their literature review, connect entrepreneurship and cultural into three huge research streams. Firstly, stream emphases on the effect of culture on combined entrepreneurship actions like innovation nationally output or creates the new business. The second stream links the connection between the individual characteristics of entrepreneurs and national cultural. The third streams explore the effect on corporate entrepreneurship of national cultural. Therefore, when someone creates new business under some specific cultural environment, businesses reflect that cultural environment, for instance characteristics such as expectations for growth in business and strategic orientation.

The lack of Government incentives may affect entrepreneurial activities. For entrepreneurial activities encouragement, many counties have adopted new policies and rules to encourage collaborative activities. The involvement of government since bunch or links have restrained a necessity for innovation and creative actions as potential benefits for the country due to accelerated technology use. It is not only benefits for the organization but also increases the economy of the country. In many studies the authors argue that government is very interested to aggregate economic growth through economic action promotion. The support of government for Women

entrepreneurs is not as obvious but they must emphasis on encouraging “more of its women to participate”. In Europe, recently they have developed new policies to better support women entrepreneurship.

#### **4 Role of Institutional Factors on Women Entrepreneurship**

North (1990), in his highly cited work, has differentiated between formal and informal institutes. While formal institutes regulate the business environment through rules, laws, and procedures; the informal institutes are norm, behavior, and code of conduct existing in society and manifested as its culture. A person’s attitude towards entrepreneurship is shaped by social and cultural norms. Kostova (1997) has proposed a three-dimensional framework to explain institutional profile of a country. These three dimensions include regulatory dimension, cognitive dimension, and normative dimension. Among these, the normative dimension consists of value system of the country which affects the business activities. Busenitz, Gomez, and Spencer (2000) describe that “the normative dimension measures the degree to which a country’s residents admire entrepreneurial activity and value creative and innovative thinking.” These informal institutes have significant impact on the business environment of a county as they can encourage or discourage entrepreneurial initiatives. Likewise, these cultural norms also decide whether women are allowed to take part in economic activities or otherwise. These informal institutions constraint economic activities of females by imposing restriction on mobility of resources and bargaining power.

Research suggests that a considerable difference exists between entrepreneurial orientation of males and females. Liberal feminist theorists have explained this difference from the lens of gender. They differentiate sex from gender. People are born with a particular sex, and it is described in terms of genes, biology, and physiology. On the other hand, gender is defined by social and cultural means. A norm is defined as “a given social setting to the extent that individuals usually act in a certain way and are often punished when seen not to be acting in this way”. The social and cultural norms categorize the choice of careers as masculine or feminine. Gender Role Theory developed by Eagly (1987) postulates that the cultural and social norms rather than biological predispositions define socially acceptable behaviors. For example, the characteristic of family is rooted in the culture and social norms of the society. Society believes that males are responsible for financially supporting their families while women are charged with caring for family, children and other dependents. This role segregation declares that males are ideal gender to start and run a business. This is supported by the fact that entrepreneurship literature is dominated by masculine features. Entrepreneurship roles are connected with masculine traits such as bold, aggressiveness, risk-taking, calculative, etc. Female-owned enterprises, on the other hand, exhibit feminized working patterns where care for social responsibility has same value as economic growth. Feminist theorists argue that gender is a social issue

and women are unnecessarily at disadvantage due to particular social orientation. They also sort to end such constraints and obstacles and ensure equal playing ground for both men and women.

Just like men, many women become an entrepreneur in order to attain financial independence. But traditional cultural and social roles mean that women are less likely to be engaged in entrepreneurial activities as compared to men. The male-dominated and patriarchal cultures have always considered females to be subordinate to males which thwart participation of women in business activities. Consequently, number of business startups by females considerably lags behind their male counterparts. While women are considered to be obligated for rearing children and caring for other dependents, men have no such responsibilities. But these domestic duties become difficult for women who have to work for longer hours and tight schedules in traditional jobs. Many women see their own business as a way reconcile their work and familial responsibilities and earn a handsome earning for their family at the same time. Hence, starting own business becomes a mean to balance multiple gender roles.

Cultural norms also create a stereotype about gender roles which limits the occupation chooses appropriate for both males and females. Lippmann (1922) defines stereotype as “simplistic and inaccurate as a result of socially transmitted rather than personal experience, resistant to change, imagination reality, the images in our head”. These gender stereotypes are preconceived and culminate in gender inequality which limits the social roles performed by females. Career choices for women are constrained by the social and cultural situation as these informal institutional pillars and normative factors dictate which career prospects and business activities are permissible to a given gender. Working women face different career paths due to stereotypical characteristics because gendered social roles are not only descriptive but prescriptive as well. As a result of these gender-based role stereotypes, men are considered to be suitable for higher level managerial jobs while female is labeled to be more suitable for secretarial jobs. Since, entrepreneurship is regarded to be males dominated field, women are discouraged to become entrepreneurs. Such stereotypes ascertain that activities of women entrepreneurs are considered to be in contradiction with the roles assigned by society.

The institutional profile and business environment of a country have profound effect on entrepreneurial initiatives. These institutions establish the “rule of the game” which shapes the intentions of entrepreneur. Institutions are beneficial in reducing transaction costs of conducting business through promoting relationship between different actors. A supportive institutional profile of a country may foster creation of new ventures by women. On the other hand, a shaky, unstable and non-conducive institutional profile can have negative effect on the self-efficacy, hope, optimism, and resilience of potential entrepreneurs. Resultantly, they are far behind the males in obtaining independence as entrepreneur.

Formal institutions are shaped by informal ones. Entrepreneurial opportunities can be created by formal institutions; while the perceptions related to these opportunities are strongly influenced by informal institutions. Formal institutions affect the types of businesses in which women may engage. Women around the world are prone to

discriminatory practices from government institutions and regulatory bodies. Women have to face different prejudice due to their gender. This limits the establishment and growth of women enterprises. Radical feminists have raised voice against these discriminations. They are vocal in removing the intuitional barriers and provide equal rights to both males and females.

## 5 Push-Pull Theory of Entrepreneurship

Dominant literature of women entrepreneurs depicted that women pose various constraints and challenges related to entrepreneurial activities like lack of access to finance, prevailing performance of under-performance, work-life conflict, fear of failure and especially socio-cultural issues (Muhammad, McElwee, & Dana, 2017). But along with the challenges, push and pull models are the motivational factors for the women entrepreneurs.

Push factors are extrinsic in nature that includes insufficient family income, dissatisfaction with salaried job, difficulty in finding work and a need for flexible work schedule, while pull factors are intrinsic in nature like need for achievement, autonomy/independence, desire to do something, social recognition, and status and to gain freedom and control (Cabrera & Mauricio, 2017).

Women entrepreneurs' motivations are connected with different factors. These factors classification varies from different author's mindset. For example, in Tyszka, Cieřlik, Domurat and Macko (2011) categorized in different factors like personal characteristics, factors in environment and circumstances in Life-path. Push and pull factors are classified by Segal, Borgia, and Schoenfeld (2005), Moses, Olokundun and Mosunmola (2014), Jamali, Jhatial and Chang (2018). Their research results exposed that a lot of women are motivated into the business and fall into push factors. These push factors include dissatisfaction, frustration; pervious jobs are tedium, not satisfied under supervision work and frustration. These researchers also identified pull factors involves; family security and education, self-sufficiency and freedom. In 2016, the author debate on "pull and push factor", they further contain desire to personal goals achievement, to be valued, endurance, pressure peer, social recognition desire, to deal with favoritism in gender and face loss of job in career.

In 2000, women entrepreneur's motivation and self-efficacy are revealed like entrepreneur's background, the entrepreneur's personality or entrepreneur's environment. Another author further categorized factors as contextual and personal elements. Personal elements involve; experience of the entrepreneur's, abilities and characteristics on personality. In other words, elements involve economic, political and social variables like markets change, deregulation of government and displacement. After two years authors further classified these factors of women entrepreneurs' motivation into personal characteristics like enterprise types, process entrepreneurial and surroundings.

Pull factors that encourage and motivate female entrepreneurs to take up ownership, whereas pushing factors that create hindrance in the way of female entrepreneurs

business venture to achieve success. Pull factors are the health conditions that trigger female entrepreneurs to work for her medicated condition. Her self-belief and dedication towards to be entrepreneur and push factors are non-cooperative behavior of family, husband pressure not to work, finance arrangement for the business. These push and pull factors affecting female entrepreneurs significantly, push factors are the challenges for her and pull factors are the motivators for her to achieve success mantra, her empowerment being the female entrepreneur.

## **6 Spillover Social Benefits for Women Entrepreneurship**

Entrepreneurship as Social factors revealed very common literature related to social networks and capital. Social capital is a concept of questionably most fruitful “exports” to further social sciences from sociology. Social capital is origin term recognized by tow famous persons, established the economic conception and individualistic. Social capital well-defined as virtual resources and tangibles which assist the accomplishment of goals of the actors and through social structure actors accrue. A valuable resource is the constituting relationship of networks, the entrepreneurial activity relative social capital theory can be found in literature of social networks.

A set of actors is defined as social networks in general terms like organizations and individuals and those actors’ linkages between those set. When one can receive opportunities for usage human capital and financial through the relationship of Social networks—relationship in which the owner didn’t hold the property but members among held jointly of a network. Many scholars illuminate numerous topics of SMEs and entrepreneurship in institutional approaches and also explain the difficulties in entrepreneurship due to problems of integrating analyses of the cultural and social factors.

## **7 Gender-Aware Framework for Women Entrepreneurship**

Women entrepreneurship is recognized as an effective method to build an entrepreneurial society by providing equal job opportunities based on values of gender equality and women empowerment. It is quite an imperative tool to promote social and economic welfare of the nation as a trigger of the social innovation phenomenon. The main strength of women entrepreneurship is to transform society by breaking the male-dominant societal structure prevailing around us. It will not only solve the social problem, it can also contribute as major poverty elevator to build economically superior country. Global Entrepreneurship Monitor (GEM) women’s Report highlighted that in 2005–2017, around 163 million women were starting their own business in 73 economies all around the world (both developing and developed nations) in which 111 million women have already established businesses. The spectrum of their business growth varies from medium to high level in outperforming

then men that upgrade the living standard, creating wealth, contributing in well-being of the nation and of course impacting the global economy businesses. The above-mentioned facts draw our attention towards the significance and impact of women involvement in economic activities of the country, but unfortunately the situation of women in underdeveloped or developing countries are quite miserable and awful due to societal and cultural norms and values.

## **8 Women Entrepreneurship in Emerging Economies**

The entrepreneurial process is the same for both men and women throughout the world. But, in practice there is significant difference in the rate for men and women pursuing entrepreneurial activities. These differences are more prevalent in emerging economies. Societies in these regions have denied the women from being independent. The business environment of these countries is not supportive of female entrepreneurs in developing countries. In a study conducted by Aidis et al. (2007), females residing in different transitioning countries face different kinds of obstacles. Various social, cultural, religious, educational and economic factors disproportionately favor men over women. All these impediments prevent women from realizing their potential. Women in these countries represent a large proportion of untapped potential of female entrepreneurs, which if properly nurtured, can take part in the economic development of their countries.

Women entrepreneurship has become a rapidly growing phenomenon. It is observed as an emerging trend in all high, middle, and low-income countries. Female entrepreneurship has attracted increasing attention in recent years and for creating the importance of innovation in business as well as economic growth and development.

Women's roles in society, the workplace, and the home influence the choice of self-employment asserted in a research study for entrepreneurial competencies of women entrepreneurs from the perspective of business growth and economic development. Women entrepreneur has found competence and passion naturally and they learn leadership skills by experience. Personal traits like education, skills, knowledge, expertise, experience, attitude towards risk-taking and many other socio-cultural factors affect the intensity of women entrepreneurship.

## **9 Methods**

This research employs a Systematic Literature Review approach. SLR has been marked its importance in the field of entrepreneurship research very well. It also helps to analyze the literature from all disciplines. SLR approach helps to present and study the existing published works and validate the knowledge in the field of research. SLR approach also enables the researcher to represent and study the literature in systematic, transparent and replicable manner. Proper guidelines have been set to

study the different literature on women entrepreneurship in emerging economies. The data base used in this study is Scopus. It is considered as the largest abstract and citation database hub in various disciplines. Subject areas like science, engineering, business and management, the arts and humanities are included. Furthermore, Scopus database is recommended as a reliable source.

## 10 Data Collection

Based on the traditional Systematic Literature Review process, a set of guidelines and criteria have been selected to analyze the existing literature. Several exclusion and inclusion criteria have been implemented to gather related literature. Table 1 presents the inclusion and exclusion criteria used to initiate the search.

The Scopus database has been searched for the journal papers with the keywords; women, female, gender, entrepreneurship, emerging economies.<sup>1</sup> The selection of this data base is due to its wide coverage range of all journals. Initial search yielded 267 documents. After refining and eliminating the duplicate documents, 180 documents were sorted down.

All abstracts of 180 articles have been read by the author to narrow down the focus of our topic. Where the clarity was not visible from the abstract, the whole document was read by the author. This process helped to drool down the search to

**Table 1** Search inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Articles included are published from the following peer-reviewed journals: International Entrepreneurship & Management Journal, International Journal of Management Review, International Journal of Gender and Entrepreneurship, Journal of Entrepreneurship in Emerging Economies, Journal of Entrepreneurship, Entrepreneurship Theory, and Practice	Studies involving the research on developed countries
Articles which focuses on Women Entrepreneurship in emerging economies as a main subject	Conference papers, working papers, and technical papers are not included
Papers included in this study are from 2006 to 2018	
All published articles included are peer-reviewed and scholarly published	

*Source* Author’s own table

<sup>1</sup>The criteria of declaring the economies as emerging used in this study is based on the indicator of Boston Analytics (Boston Analytics—Pathways to identifying top performing Emerging Markets).

76 articles. The remaining 76 articles were studied in detail to find out whether they contribute to the knowledge of women entrepreneurship in emerging economies. The full list of articles is not included here due to space constraints and can be provided upon request. Following the guideline of Wilson et al. (2017), an independent search on Google Scholar was performed to eradicate the risk of rigidity and validity of research review process.

## 11 Review Results

### 1. Publications over time

All the 76 articles were sorted down by the year of their publishing. Figure 1 describes the number of articles per year for the last 23 years. The articles identified in the search string in Scopus between January 1999 and August 2018 are distributed over time. Figure 2 helps us to look at the trends of literature in the study of women entrepreneurship in emerging economies.

### 2. Distribution of articles by journal

Although there was limited number of articles on our topic of interest, there were many journals in which the multiple articles have been found on the specified topic. In addition to entrepreneurship journals, there were many journals of other disciplines in which such studies have been found. Disciplines like management, decision sciences, education, sustainability, business ethics, and gender studies have also published studies on our topic. The above-categorized subject areas have been picked by the inbuilt literature analysis function of SCOPUS. Table 2 shows the number of articles found in the respective journals within the specified time.

Figure 3 shows the graphical illustration of articles per journal. The maximum number of studies found in International Journal of Gender and Entrepreneurship.

### 3. Distribution by subject categories and associated journals

The review has been conducted on independent studies found during the search process. It allows the process to be more rigorous. Figure 4 provides an overview of journals in which articles are published and have been selected as a final sample. Within the same discipline, multiple studies have been found and located in the same branch of discipline in Fig. 4.

## 12 Data Analysis

The data analysis technique used in this research is Gioia methodology. Gioia methodology is known for new concept development in the field of management sciences. Researchers focus not only on themes and patterns arising from the data but



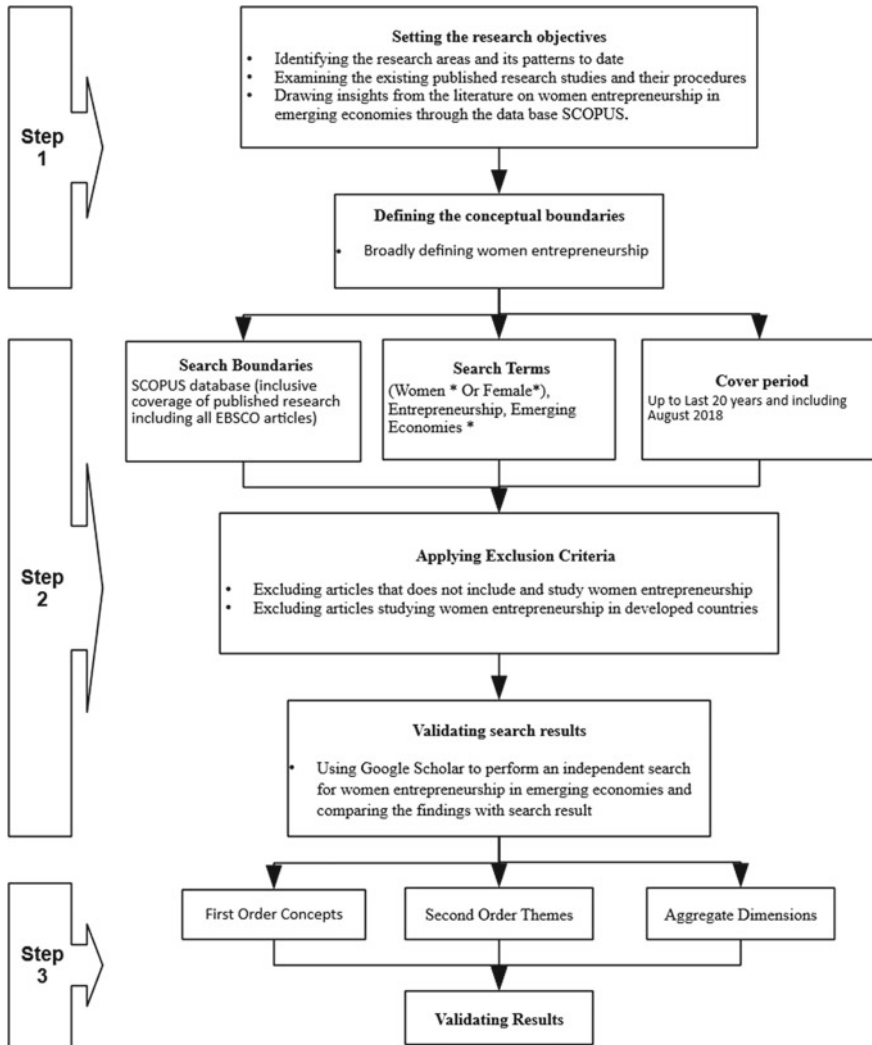
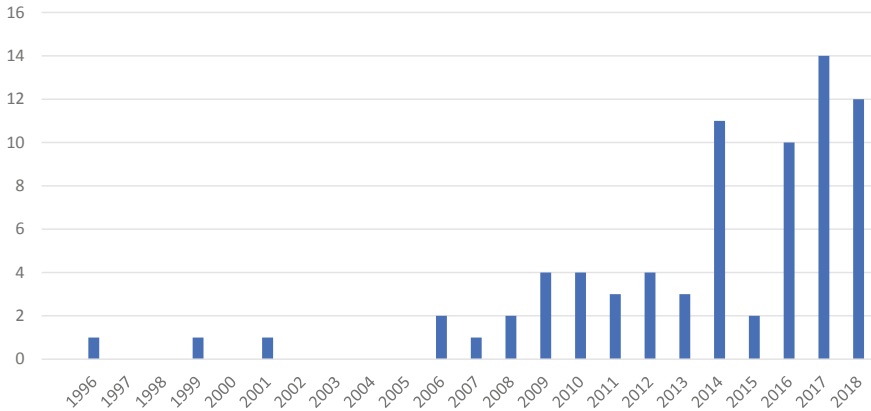


Fig. 1 Systematic literature review approach. Source Author's own figure

also the inter-relationship between the variables in the Gioia methodology research. Gioia methodology and the researchers who follow this method claim that this methodology is different from grounded theory model because it provides the relationship matrices among the variables. It helps to present inductive research in a more transparent manner. It has three-level analysis.

The first-order analysis helps to analyze the data set as a stand-alone entity. It helps the researcher to come up with similar patterns within the same data set. Researchers develop codes through open extracts using the words of articles and then group these



**Fig. 2** Number of articles per year. *Source* Author’s own figure

into first-order concepts through constant comparison between different extracts. The first-order analysis is concerned with the analysis of data generated from the selected articles and their codes. The first-order analysis is considered as a faithful representation of data from articles.

The second-order analysis is an analysis of researcher on articles, Linkages between first-order concepts are then sought through axial coding leading to second-order themes situated at higher level of abstraction. The second-order analysis is more focused on generating theoretical domain of the raw data. It helps the researcher to find out whether the phenomena to be studied are emerging from the themes or not.

Through further comparisons, researcher arrives at aggregate dimension level that serves to summarize the components of emerging conceptual model. At aggregate dimension analysis level, it has been studied whether the phenomena generating from themes have some theoretical underlying importance or not. If there is no relationship found, concepts or first-order analysis has to be redone. Central artifact of Gioia methodology process is a hierarchical data structure as key output of research usually in the form of a tree-shaped figure.

Data analysis has been divided into two following steps.

1. Identifying themes out of data set related to sub research questions.
2. Coming up with aggregate dimensions to address the issue of main research question.
3. Development of decisional interventional framework.

Articles have been studied and first-order concepts were listed down. Table 3 is the presentation of small sample of Systematic Literature review evidences and the first-order concepts emerged from them. The total number of articles during the study is 76 hence a small sample is given in Table 3 due to space constraints.

Second-order themes are based on first-order concepts. Table 4 presents the emerging themes from the articles and the list of corresponding authors. Systematic Literature Review allows the author to acknowledge all the scholars who have contributed

**Table 2** Journal distribution

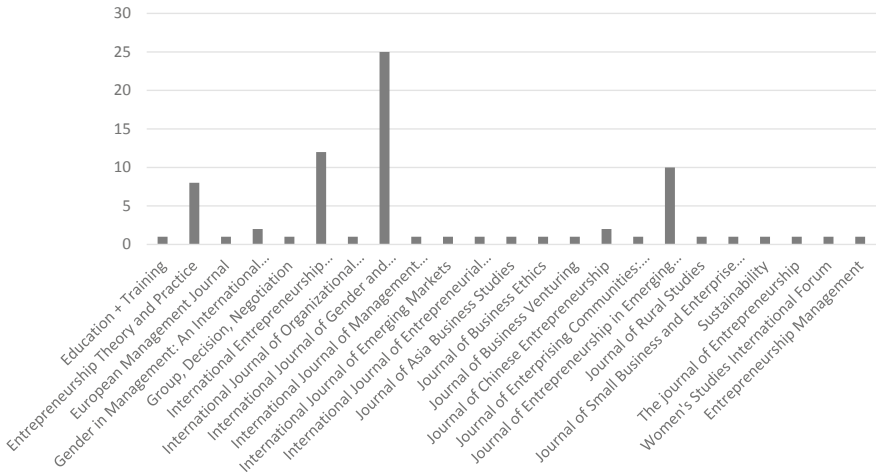
No.	Journal	No. of articles
1	Education + Training	1
2	Entrepreneurship Theory and Practice	8
3	European Management Journal	1
4	Gender in Management: An International Journal	2
5	Group, Decision, Negotiation	1
6	International Entrepreneurship Management Journal	12
7	International Journal of Organizational Analysis	1
8	International Journal of Gender and Entrepreneurship	25
9	International Journal of Management Reviews	1
10	International Journal of Emerging Markets	1
11	International Journal of Entrepreneurial Behavior & Research	1
12	Journal of Asia Business Studies	1
13	Journal of Business Ethics	1
14	Journal of Business Venturing	1
15	Journal of Chinese Entrepreneurship	2
16	Journal of Enterprising Communities: People and Places in the Global Economy	1
17	Journal of Entrepreneurship in Emerging Economies	10
18	Journal of Rural Studies	1
19	Journal of Small Business and Enterprise Development	1
20	Sustainability	1
21	The Journal of Entrepreneurship	1
22	Women's Studies International Forum	1
23	Entrepreneurship Management	1
	Total	76

*Source* Author's own table

to the field of study. Following table is represented in a way that most of the authors of 76 articles should be acknowledged, meanwhile the related themes emerged from the respective first-order concepts are also presented (Fig. 5).

## 13 Discussion

Entrepreneurs are defined as “One who creates a new business in the face of risk and uncertainty for the purpose of achieving profit and growth by identifying opportunities and assembling the necessary resources to capitalize on them”. Entrepreneurship is a vision with which a woman/man explores and optimizes new horizons and



**Fig. 3** Articles per journal. *Source* Author's own figure

creates economic freedom and economic empowerment among her fellow beings. Across globe, women in every generation with diverse cultural backgrounds depict a sign of entrepreneurial spirit. The government has to provide an attitude and environment in which women feel comfortable to start new ventures and thus it will flourish to our economy and countries will lead to road to progress and employment level will be increased. It is estimated that over 200 million women are employed throughout different industries, with majority of these women are in developing countries. Entrepreneurship by definition focuses on controlling personal life. Women are expected to cover more than half of the population of world and women empowerment is one the emerging phenomenon of modern era. This women empowerment is exactly the opportunity through which woman potential can be raised. However, society does not acknowledge and therefore majority of women potential remains untapped. It can be a powerful resource in economic growth of every economy. Women are not starting new ventures due to economic and social factors. Social, economic and financial factors influence women entrepreneurs skills in developing countries. Gender equality can be seen in developed nations and this equality provides platforms for women entrepreneurs' workforce to be motivated. However, entrepreneurs will face financial instability due to lack of experience. They also face issues while managing human resources. Females are facing more issues than males.

## 14 Factors Affecting Woman Entrepreneurs

New horizons are opening in the entrepreneur field and as a result traditional way of living standards are changing and a new paradigm is emerging that is development

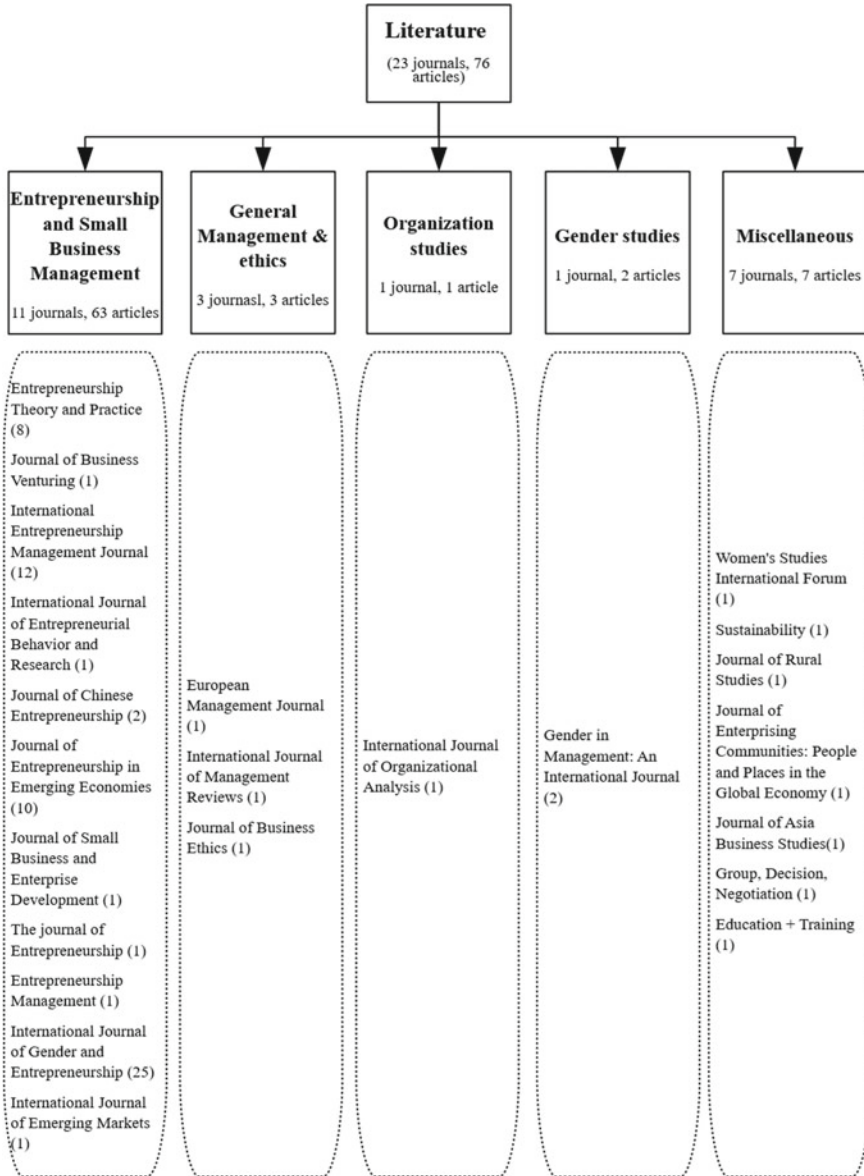


Fig. 4 Overview of journals. Source Author's own figure

**Table 3** Sample distribution

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Botha, Nieman, Vuuren	2006	Training needs of female entrepreneurs	Quantitative (Experimental Design)	Execution of Women Entrepreneurship Program	Female Entrepreneurs	180	South Africa	Women Entrepreneurship Program not only helped to the process of skills transfer but also motivated females to start their own business or if they have existing business, upgrade it to multiple businesses
Derera, Chitakunye, O'Neill	2014	Gender-specific barriers to starting a new business	Mixed-Method approach (Semi-structured interviews and survey)	N/A	Women Entrepreneurs	56	South Africa	Bank-Lending models to assist women entrepreneurs need urgent attention and should be revised
Tlatts	2014	Role of cultural values and barriers in entrepreneurial careers	Qualitative (in-depth interviews)		Women entrepreneurs	20	UAE	Cultural and contextual factors are one of the reasons for low participation of women in entrepreneurship

(continued)

Table 3 (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Teoh, Chong	2014	Developmental issues for women entrepreneurs in Malaysia	Secondary sources (government documents)	N/A	Women entrepreneurs	N/A	Malaysia	HEI should promote entrepreneurship policies in Malaysia. Gender gaps should be eliminated by considering the barriers of women in all developing countries including Malaysia
Welsh, Kaciak, Trimi, Mainardes	2018	Using Resource Based View to identify the relationships between financial resources and firm performance with female startups?	Quantitative	Firm performance	Brazilian Women entrepreneur	137	Brazil	It is important to provide assistance in loans and managerial skills to empower and encourage women for their startups

(continued)

**Table 3** (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Noguera, Alvarez, Urbano	2013	Analyzing main socio-cultural factors affecting women entrepreneurship in Catalonia using Institutional Theory.	Quantitative	Female and Male entrepreneurship	Global entrepreneurship Monitor (GEM) interview data	2000	Catalonia	Fear of failure is affecting women entrepreneurship negatively. However, Perceived Capabilities is having a positive effect on women entrepreneurship
Tsuchiya	2010	Identifying the issues relating to neighborhood social networks for female entrepreneurs	Quantitative	Female self-employment earnings	Taiwan Women and Family Survey (TWFS)	134	Taiwan	Female self-employed workers and entrepreneurs with high earnings are contributing more towards the organizational communities

(continued)



Table 3 (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Welter, Smallbone	2008	Studying the institutional framework to women entrepreneurship in Uzbekistan	Qualitative	N/A	Women and men entrepreneurs	260	Uzbekistan	External environment with institutional deficiencies are the hurdles in the development of productive entrepreneurship (men and women)
Xie, LV	2016	Exploring the relationship between the social networks of female tech-entrepreneurs and new venture performance	Quantitative	New venture performance	Female tech-entrepreneurs	316	China	Entrepreneurial alertness of female tech-entrepreneurs not only has a direct effect on new venture performance but also positively moderates the relationship between the social networks of female tech-entrepreneurs and new venture performance

(continued)

**Table 3** (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Bianco, Lombe, Bolis	2017	Analyzing the relationship in women entrepreneurship and gender equality in Colombia	Qualitative	N/A	Women entrepreneurs	19	Colombia	Old gender ideologies are deeply rooted in structural barriers that restrict women entrepreneurs to grow
Heilbrunn, Abur-Asbeh, Nasra	2014	Studying the difficulties facing by women entrepreneurs in Israel	Quantitative	N/A	Women entrepreneurs	477	Israel	The socio-political affiliations and associations of the women entrepreneurs are imposing constraints on their economic activities
Pan	2015	Studying the relationship of secular Islamic feminist approach to women entrepreneurship in Turkey	Qualitative	N/A	Women-owned organizations	2	Turkey	Islamic Feminist practices are helping to achieve gender equality thus empowering women to grow their entrepreneurial practices

(continued)

Table 3 (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Modarresi, Arasti, Talebi, Farasatkahh	2016	Exploring different factors increasing the motivation for women entrepreneurs in Iran	Qualitative	N/A	Iranian Female Home-based Business owners/managers	20	Iran	Home-based Business owners are motivating more by the intrinsic motivations
Nguyen, Frederick	2014	Studying the socio-cultural factors and government policies to support women entrepreneurship in Vietnam	Qualitative	N/A	Female entrepreneurs and non-entrepreneurs	12	Vietnam	Private sector is helping at a large scale with the support of government policies to grow the women entrepreneurial activity
Lock, Smith	2016	Studying business environment and its favorability for women entrepreneurs in Kenya	Qualitative	N/A	Female entrepreneurs	27	Kenya	Microfinancing should be alleviated to support women entrepreneurs

(continued)

**Table 3** (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Danish, Smith	2012	Identifying the challenges faced by women in business in Saudi Arabia	Qualitative	N/A	Female entrepreneurs	40	Saudi Arabia	Small and Medium-sized enterprises are growing regardless of the societal challenges and very less governmental support
Welsh, Kaciak, Memili, Mimiailai	2018	Examining the women-owned firm's performance on two parameters, in Morocco and Turkey	Quantitative	Family financial support, family moral support, personal problems	Women entrepreneurs	116 in Morocco 147 in Turkey	Morocco and Turkey	Family financial support has a positive relation with firm's performance in Morocco while in Turkey family support has a more viable effect
Anggadwita, Luturlean, Ramadani, Ratten	2017	Analyzing the impact of socio-cultural factors on the entrepreneurial activities of women entrepreneurs in Indonesia	Quantitative	Socio-cultural environments	Women entrepreneurs	210	Indonesia	Tolerance, mutual cooperation, and cultural kinship are the most important socio-cultural factors helping women entrepreneurs in Indonesia

Source: Author's own table

**Table 4** Second-order themes

Second-order themes	Authors
Family and social support	<ul style="list-style-type: none"> <li>• Dhaliwal (2000)</li> <li>• Brush et al. (2009)</li> <li>• Tlaiss (2014)</li> <li>• Welsh et al. (2018)</li> <li>• Welsh et al. (2017)</li> </ul>
Relationship building capability	<ul style="list-style-type: none"> <li>• Noguera et al. (2013)</li> <li>• Amrita, Garg, and Singh (2018)</li> <li>• Gimenez and Calabro (2017)</li> <li>• Anggadwita et al. (2017)</li> </ul>
Availability of funds	<ul style="list-style-type: none"> <li>• Rajput and Ali (2009)</li> <li>• Mahmood (2011)</li> <li>• Derea et al. (2014)</li> <li>• Dutta and Banerjee (2018)</li> <li>• Franck (2012)</li> <li>• Nguyen and Frederick (2014)</li> <li>• Lock and Smith (2016)</li> <li>• Mand, Atri, Gill, and Amiraslany (2018)</li> </ul>
Social media and networking	<ul style="list-style-type: none"> <li>• Mathew (2010)</li> <li>• Ameen and Willis (2016)</li> <li>• Brown (2011)</li> <li>• Modarresi et al. (2016)</li> <li>• Tsuchiya (2010)</li> </ul>
Improved standard of living	<ul style="list-style-type: none"> <li>• Afza and Rashid (2009)</li> <li>• Hossain et al. (2009)</li> <li>• Bastian, Sidani and Amine (2018)</li> <li>• Welter and Smallbone (2008)</li> </ul>
Behavioral change	<ul style="list-style-type: none"> <li>• Ahl (2006)</li> <li>• Bianco et al. (2017)</li> <li>• Pan (2015)</li> <li>• Rao (2014)</li> </ul>
Leadership skills	<ul style="list-style-type: none"> <li>• Adom and Yeboa (2016)</li> <li>• Huang et al. (2012)</li> <li>• Botha et al. (2006)</li> <li>• Raghuvanshi et al. (2017)</li> <li>• Bhardwaj (2014)</li> <li>• Sengupta et al. (2013)</li> </ul>
Affirmative resistance	<ul style="list-style-type: none"> <li>• Roomi and Harrison (2010)</li> <li>• Barrett (2014)</li> <li>• Das (1999)</li> <li>• Panda (2018)</li> <li>• Heilbrunn et al. (2014)</li> <li>• Lenka and Agarwal (2018)</li> </ul>
Self-efficacy	<ul style="list-style-type: none"> <li>• Datta and Gailey (2012)</li> <li>• Teoh and Chong (2014)</li> <li>• Haq, Usman, Hussain and Anjum (2014)</li> <li>• Shukla et al. (2018)</li> </ul>

Source Author's own table

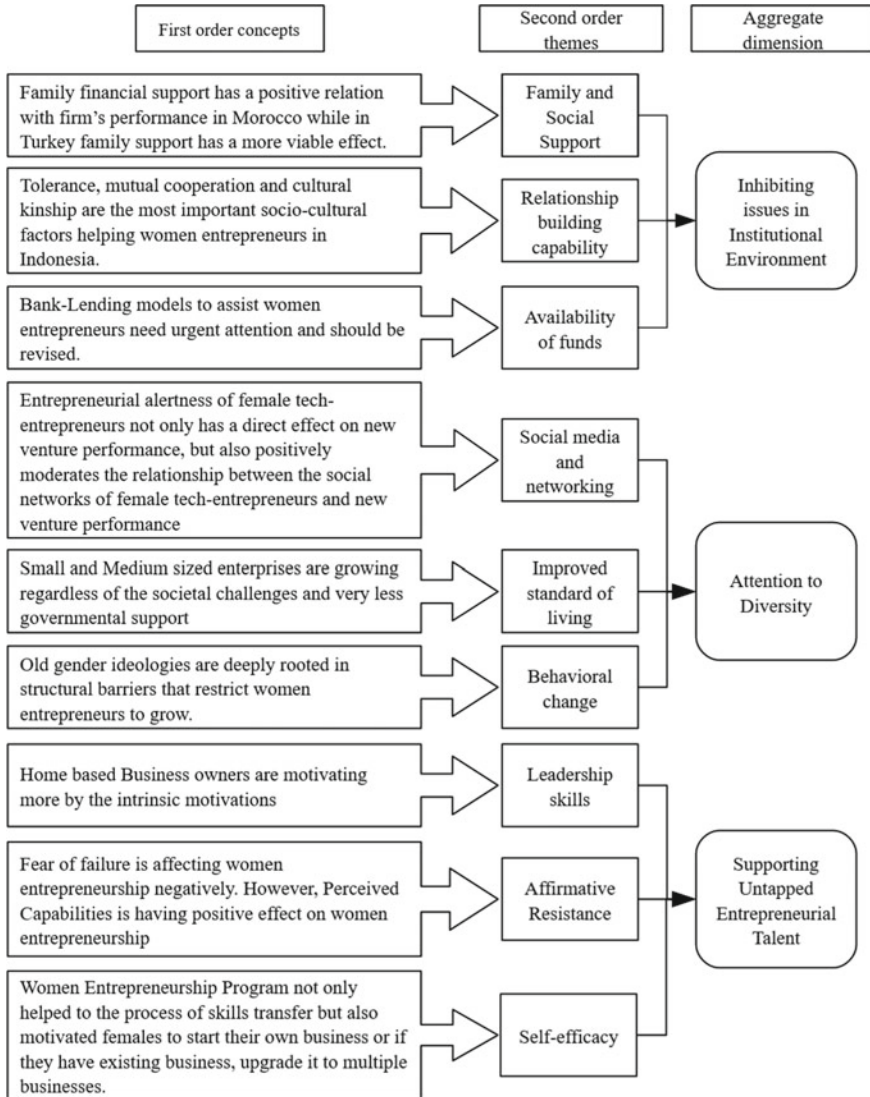


Fig. 5 Member countries of the SAARC region. Source Author's own figure

of new ventures that will change the modern landscape of this world. Market is becoming competitive and in order to survive new markets need to explore and since it cost high so multinational organizations tend to face challenging situations. It is easier for small & medium scale enterprises to startup new ventures with diversified products and services to satisfy the consumer needs by cutting costs at the same time. Women used to start new ventures due to two important scenarios. They are willing to start their business due to their choice or they have needs that have motivated

to start their own business. So we can say either venture by females are started by choice or necessity.

Women entrepreneurs are working hard to raise their living standards.

### ***14.1 Inhibiting Institutional Environment***

Supportive institutions are essential for boosting new business creation. On the contrary, inhibiting institutions are counterproductive for the growth of new business ventures. Entrepreneur has to interact with local institutions and regulatory bodies. Entrepreneur is required to be cognizant about the influence of institutions and government policies.

A considerable amount of literature illustrates the inability of women entrepreneurs to raise capital for establishment, running and growth of their business. This lack of resource mobilization affects the business startup. Consequently, either they have to delay the business startup, or their business cannot prosper (Barrett, 2014). Due to financial constraints, women-owned businesses are characteristic by lower initial capital. Their lower debt and equity ratio means that they are forced to run their businesses in cheaper, low growth, and less profitable sectors. Women don't have collateral to pledge for obtaining loan. To make things worse, there are susceptible to discriminatory practices of banks and loan lending bodies because of their personal assets, credit worthiness, past credit record, and small size of business (Pan, 2015). Resultantly, women are forced to raise the capital from informal sources.

Some of the themes emerged under this aggregate dimension have been discussed below.

#### **1. Family and Social support**

The patriarchal societies of developing countries present all but little opportunities for women. The liberal and radical feminist theories postulate that these disadvantages are rooted in the masculine hegemony and male-dominated social structure. It is impossible to think that a woman can survive in these societies on its own without the support of man. The social and cultural orientation dictates that women will remain subjugated to men. They have no power to control their belongings. The situation becomes worse for widow, divorced, or orphans (Pettersson, 2012). Even their own relatives stop helping them. Little attention is given to education of such orphan children. Cultural and social norms prevent girls from obtaining formal education.

Entrepreneurship is not for males only, it is for both male and female gender. It will help women to not only raise their living standards but support their families in getting better education and thus creating employment for themselves (Franck, 2012). Women Education will help society as women will be able to confidently able to serve and discover new business avenues. It looks easy to demonstrate these things but reality is different due to geographical and demographical factors. In order to progress at social and economic level of any country women entrepreneurs play a significant role. In one of the cases of Indonesia, it has been discussed that for

the success of women entrepreneurs, the support from the immediate surroundings (family) shows a positive relation to them (Anggadwita et al., 2017).

Family is also considered as the most important institution of the society that shaped and modified women career choices and decisions. Usually, collectivist culture of joint family system is prevailing in which decisions are determined and imposed by the male head of the family that can be father, brother, grandparents, and husband. Therefore, throughout life women are not given independence about her work-life choices or decisions that badly affects the women's competencies and capabilities.

## **2. Relationship building capability**

Entrepreneurship is a vision or an idea that a woman holds for the optimization as well exploration of the new job creation and economic development with their fellow beings. Delmar (2000) stated that globally, the women diverse generations showed an inspiring sign of the entrepreneurship soul and spirit. The concept of female entrepreneurship is not considered as a newly developed concept, but it might be hesitant for the females to initiate business because of the community, society as well family pressure in particular to the societies who are economically struggling (Modarresi et al., 2016). Many of the developed states are getting edge of the female empowerment because they provide them an equality-based platform by ignoring the gender perspective. The opportunity to make the business idea flourish needs support from all the ecosystems (Panda, 2018). Hence, building good relations and receiving emotional, financial and physical support has shown accelerating effects on the business startups by women entrepreneurs.

## **3. Availability of funds**

With the passage of time in various countries, even the government and funding institutes conduct training to boost the females to start their own businesses. The emergence of female entrepreneurs depends largely on social, economic, cultural, psychological and political factors. For the developing nations it is highly needed to promote entrepreneurship and in addition female entrepreneurship to attain balanced economic growth. As for most of the female's employment is the remedy or solution to their social problems in the form of dowry, poverty, sense of inferiority complex and dependency on males and unemployment. Custom, society, attitudes play an important role for female to participate in economic activity. As in Asian countries participation of females in working activities depends on various factors such as society, unemployment, poverty, and divorce rate. Due to scarcity of resources, knowledge and training females are not capable to utilize the resources at the fullest.

# **15 Attention to Diversity**

Social media is a movement from 'static' sites towards more shared, intelligent and responsive web composition. Web-based social networking involves new online



devices for distributing mixed media content, regularly in an assortment of configurations including content, video, sound, and pictures (Achtenhagen & Tillmar, 2013). It empowers communications to cross at least one stage or administrations through sharing connections and includes diverse levels of engagement by members who can read, react to and republish tremendous amounts of data unreservedly and effectively. Online networking members are shoppers of data who carry on in new ways, repurposing and sharing information as half and half makers and clients, independently and progressively in gatherings (Aggestam & Kristoferson, 2017). They find better approaches to merge them and progressively take part in shared substance creation. Information trade specialists should observe that these new computerized practices and apparatuses frequently seem together.

### 1. Social Media and Networking

Presence on social media requires the technological environment to take knowledge management resourcefulness, it's a process, not just a decision. Women entrepreneurs, that are present on social media they interact with each other for better and deeper understanding. The users transformed from content writers actively through content readers passively with the use of social media in their lives (Ameen & Willis, 2016). Four emerging social media services include services blogging micro, services of social networking, mobile services awareness location and services forum discussion corporate.

The emergence of ICT has enabled women to startup their business and do all the marketing through social media. In many emerging countries, small business female owners have presented the fact that WhatsApp and Facebook have made a huge contribution to their businesses. Services as microblogging are used to enable women entrepreneurs to reach towards their customers with micro posts these services serve their customers to supply knowledge for customers about recent services/products, marketing offers as well as service to customer. It supports the concept of design with customers who can also an example of marketing with customers (Faisal, Jabeen, & Katsioloude, 2017). There should be interconnectedness between women entrepreneurs and customers. Dialogue and discussion b/w the entrepreneurs and customers are the essences of social networking services. SNS facilitates women entrepreneurs to superior customers' preferences understanding and loyalty of customer. LSM helps organizations to manage location-specific customer knowledge. LSM technique can be used for specific customers a specific location to upgrade them with new offerings and promotions available as specified branch and firm also tries about customers most check into that location. With different geographical locations customer needs preferences difference and location wise customer data bases can be generated. Novel ideas can also come from the customers so CDS enables customers to express their needs, doubts, recommendations and purchase intensions.

### 2. Improved standard of living

Ewoh (2014) explained that the role of entrepreneurship is not just limited to the gender, but now in the developed stated women power has turned up. They realized that for the survival of their families their own role being a potential worker is lies in

working with men side by side. According to Scott (1986), entrepreneurship is like a progressive and growing idea for the business domain. It has been highlighted in one of the studies that entrepreneurship is not just to get importance for the sake of creation of a new business concept for globalization for women but it is also vital for the emerging of diverse opportunities rendering to the future benefits (Lewis, 2017). Large scale business leads for the challenging situations in all the domains consequently small and medium-level businesses are fortified for the startup of new business walks with differentiation of goods and services to meet the needs level of the customers.

### 3. Behavioral change

Henry et al. (2016) stated that studies on female and male entrepreneurship are becoming the top emerging trend in current exploration studies. Goyal and Yadav (2014) reviewed the barriers associated with the development of women entrepreneurship and concluded that the developing states are facing educational barriers as a major hindrance towards the progress of females entrepreneurship. Females efforts for accessing the money, social-cultural prejudices as well as facing the low level of self-esteem are the barriers associated with their development (Lockyer & George, 2012). Added more the researcher contributing that these hindrances should be overcome to assist female entrepreneurship in developing states. One of the studies in Malaysia shows that female entrepreneurship area is silent or limited within nation-wide restrictions and future exploration needs construction systems of networks across multinational borders (Teoh & Chong, 2014).

In developing nations, the unique challenge faced by female entrepreneurs is gender discrimination. As compared to their male counterparts they face more difficulties in commencing their business activities (Cabrera & Mauricio, 2017). Shmailan (2016) highlights that mobility and marketing ability is also the major hurdle faced by female entrepreneurs mostly females in small village areas depend on middle man because of unawareness of marketing conditions and unable to easily move from village to cities to market their products. As result middleman fully exploit these entrepreneurs and they left with very small share of profit.

## 16 Supporting Untapped Entrepreneurial Talent

To study the transformation from necessity driven entrepreneurs to social entrepreneurs, it is important to first understand the factors that trigger a woman to start her own business (Amrita et al., 2018). There can be diverse reasons for women to become entrepreneurs. Most of the factors included in this aggregated dimension contain second-order themes which pertain to the social, cultural and economic context. These are important to understand “when, how, and why entrepreneurship happens and who becomes involved”.

Women in developing countries would love to give their services in education, social and household services such as domestic work. However, the motivational

level changes from industry to industry. Now women are coming out from economic disparity and moving toward economic freedom thus leading to women empowerment. Her business activities will lead towards not only her success but also provide success to economic development.

By analyzing the literature, few of the themes under this aggregate dimension will be discussed as follows.

### **1. Leadership skills**

Women entrepreneurship is a social phenomenon that is recognized as an untapped source to create jobs in the market by utilizing the substantial knowledge, competencies, and capabilities of women. The expertise and skills of women specifically the leadership skills help them to grow and support other females in the societies. Women entrepreneurship is all about women empowerment and promotion of entrepreneurial initiatives by identifying the problems of others, exploiting opportunities and creating unique workable solutions for others to create convenience in people's lives. Women's entrepreneurial decisions are dependent upon the socio-cultural factors that can be said as women's career choices are influenced and shaped by the context. Here the term 'context means 'to make connection and relations that involve the surroundings associated with the social phenomenon of women empowerment. Dominant literature of subject matter identified that socio-cultural factors and institutional environments are can be enabler or hurdles/constraints for new venture creation. According to one study, women who have leadership skills as a strong characteristic, they tend to encourage and support more females in their surroundings to become financially independent in developing countries.

### **2. Affirmative resistance**

The desire to become entrepreneur is driven by desire for achievement and personal accomplishment, and monetary benefits may become less pertinent for women entrepreneurs. Independence and control are the most frequently cited factor among women entrepreneurs. Different pull factors such as independence, autonomy, more income, and self-fulfillment push women to start their own business. Entrepreneurship is described as discovery, evaluation, exploitation, and pursuit of an economic opportunity. However, it is not synonymous with money-making. In fact, entrepreneurship allows women to attain financial freedom, flexibility, recognition, and self-fulfillment (Adom & Yeboa, 2016). Women are seldom appreciated at traditional work, and their need for self-actualization is badly affected by the barrier in their professional advancement (Ameen & Willis, 2016). In previous research work, a number of women entrepreneurs have mentioned 'not being taken seriously' as a motivating factor to become entrepreneur (Lock & Smith, 2016). Glass ceiling, glass floor, and inability to reach top position in organization choke out their desire for achievement at traditional job. Furthermore, they realize that they can satisfy their need for achievement by starting their own enterprise. Women are cognizant of the fact that they are equal to men in rational capacity, and they can excel at their own business. Entrepreneurship becomes a source of self-expression, self-realization, and self-fulfillment for women in Japan.

### 3. Self-efficacy

Self-efficacy is built on abilities and skills on individuals. Many researchers noted, motivation in life by observed self-efficacy, not the objective ability, and believes and perceptions intensely shake our behaviors and also our affective states or both. Scholars continually stressed that self-efficacy as a vital aspect in defining women-owned enterprises and persons who have extraordinary self-efficacy to certain goals for the fulfillment and persist that goal.

There is a strong relationship between career and self-efficacy through well-knowable literature of career theory, much research's not explained some exact options of career about entrepreneurship. To translate the passion, interest, and ambition into reality, is a lifelong achievement for many women entrepreneurs. Self-efficacy is measured hardly used as result. Very little studies perceived that women entrepreneurs with increasing self-efficacy are contributing to society at a larger level (Nguyen, Frederick, & Nguyen, 2014).

## 17 Women Entrepreneurs in SAARC Countries

The study has analyzed the emerging economies and the related articles up till now. Emerging economies being the super set of the population. The author has picked the subset of SAARC countries as a subset within the SLR process.

SAARC (South Asian Association for Regional Cooperation) is a group of eight countries in South Asia. All the countries in this region are emerging economies and trying to make their mark on the map of whole world.

The reason to study SAARC countries, in particular, is that there are very few studies found in South Asia. The member countries of SAARC region are presented in Appendix. During the SLR process, it has been identified that there is a huge literature gap to study these emerging economies.

## 18 SAARC Countries

Many emerging economies, particularly in SAARC countries, have a problem of higher birth rates as result females have to start new ventures. Laws and customs of developing countries focus and emphasize women to start new venture from their home. Since the income is very low so it is very difficult for families to provide best education and living standard. They are unable to provide quality education, health, and food. There are less training opportunities for women so that they carry their business in external environment. Subsequently, it is seen that women are not comfortable to work as an employee as employers are unable to make suitable workplace. Another issue for women while working is to care about family, especially

babies and employers are unable to provide suitable places for their babies. However, multinational companies are now providing facilities like baby-sitting that gives great importance to female employees.

Since women are not comfortable and they are striving hard. It is seen that women in developing countries are creating an environment for themselves so that they can easily start their new ventures. It will help them to work according to their own will. It will also help them to take care of their children and their household responsibilities. They can work for few hours and earn more. It is seen that families in third world countries are living a low standard of life. Fathers are working hard to overcome financial issues of families. They do not have time to work at home and take care of their children so responsibilities lie heavily of females. Consequently women feel better to start venture from home. Women enterprise is heavily dependent on women's willingness to survive and growth.

## 19 Methodology

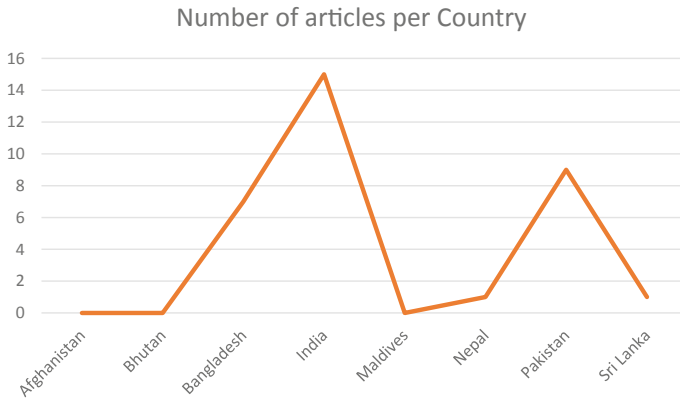
Studying women entrepreneurship in SAARC countries as a homogenous area of study is not possible. In order to analyze the existing literature on Women entrepreneurship in SAARC countries, a systematic literature review has been conducted. After conducting the research for all emerging economies, the refining has been done to gather all the existing articles on the SAARC countries. Table 5 presents the number of articles found for each SAARC member country in the search form SCOPUS after conducting SLR for emerging economies. Figure 6 illustrates the trend of articles published for the respective countries of SAARC within last 23 years.

GIOIA methodology is used to analyze the articles. Table 6 presents the evidence of the SLR sample from SAARC countries. First-order concepts (actual quotes from the articles) have also presented in the table for the analysis.

**Table 5** Number of articles for each SAARC member country

Countries	Number of articles
Afghanistan	0
Bhutan	0
Bangladesh	7
India	15
Maldives	0
Nepal	1
Pakistan	9
Sri Lanka	1
	30

*Source* Author's own table



**Fig. 6** Number of articles per country. *Source* Author’s own figure

## 20 Data Structure Discussion

The articles analyzed in the context of South Asian Countries (SAARC) have provided different insights. Figure 7 presents the analysis conducted on the 30 articles of SAARC countries. First-order concepts have been taken in their original form, from the articles. Second-order themes have been shown in Fig. 7 by analyzing the first-order concepts. Following is the linkage of aggregate dimensions with their respective themes.

## 21 Precipitated Entrepreneurs

Most of the scholars have argues that the balance of work and family issues motivated the women entrepreneurs in South Asia. Positive relationship of a business venture with its contact networks reinforces the equity capital of women entrepreneurs. It is very difficult for females to obtain capital for the business in most of the literature found relating to SAARC countries. Access to finance is a major difficulty for females. Mostly females obtain finance from their families to start their business and their main motivating force is their family. But in some cases it is very difficult for females to let their families believe on their hard work and abilities so in such cases female entrepreneurs have no support from their families in term of finances.

They have to depend on money lenders for finance and as a source of finance providers, they are the part of their lives. These money lenders tend to exploit entrepreneurs by imposing heavy amount of interest rate as banks and financial institutes consider females as less risk-takers. Finally the poor economic base is also the big reason for less financial assistance for females. As financial institutes consider small business units as less creditworthiness, their procedures to provide

**Table 6** SLR sample from SAARC countries

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Datta, Gailey	2012	Indian Women's empowerment and role in social entrepreneurship	Qualitative (Case study)	N/A	Female entrepreneurs	7	India	Women feel empowered by collective form of entrepreneurship, it provides the economic security and increase contribution by the family
Hossain, Naser, Zaman, Nuseibeh	2009	Studying the factors influencing women development in Bangladesh	Mixed method	N/A	Bangladeshi women	300	Bangladesh	Business development in women entrepreneurs is completely restricted to middle and upper-class women due to their financial independence
Mahmood	2011	Studying the influence and impact of microfinance on women entrepreneurship in Pakistan	Qualitative	N/A	Women borrowers	37	Pakistan	More than 60% women borrowing loans from micro-financing institutions are using it to start their business and becoming stable women entrepreneurs

(continued)

Table 6 (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Perera	2013	Studying the issues and barriers in the success of women entrepreneurs in Sri Lanka	Qualitative	N/A	Sri Lankan women entrepreneurs (SME)	14	Sri Lanka	Lack of government incentives, Labour scarcity, difficulty in providing collateral, access to low-interest credit facilities, low access to advanced technology, sexual harassment, and involvement in traditional female type businesses, and the adoption of an “androgynous” leadership style are the key barriers in the success of women entrepreneurs

(continued)



Table 6 (continued)

Author	Year of publication	Research question	Methodological approach	Dependent variable	Unit of analysis	Sample	Country	First-order concepts
Panta and Thapa	2018	Studying the benefits and challenges faced by women entrepreneurs along with the potential role of empowerment after the implementation of government programs	Qualitative	N/A	Women tourism entrepreneurs in Nepal	10	Nepal	The need for capacity-building programs that focuses on enhancing women's non-traditional roles, and wider programs to increase family/community support to promote their participation in tourism as entrepreneurs are playing a crucial role in their business

Source: Author's own table

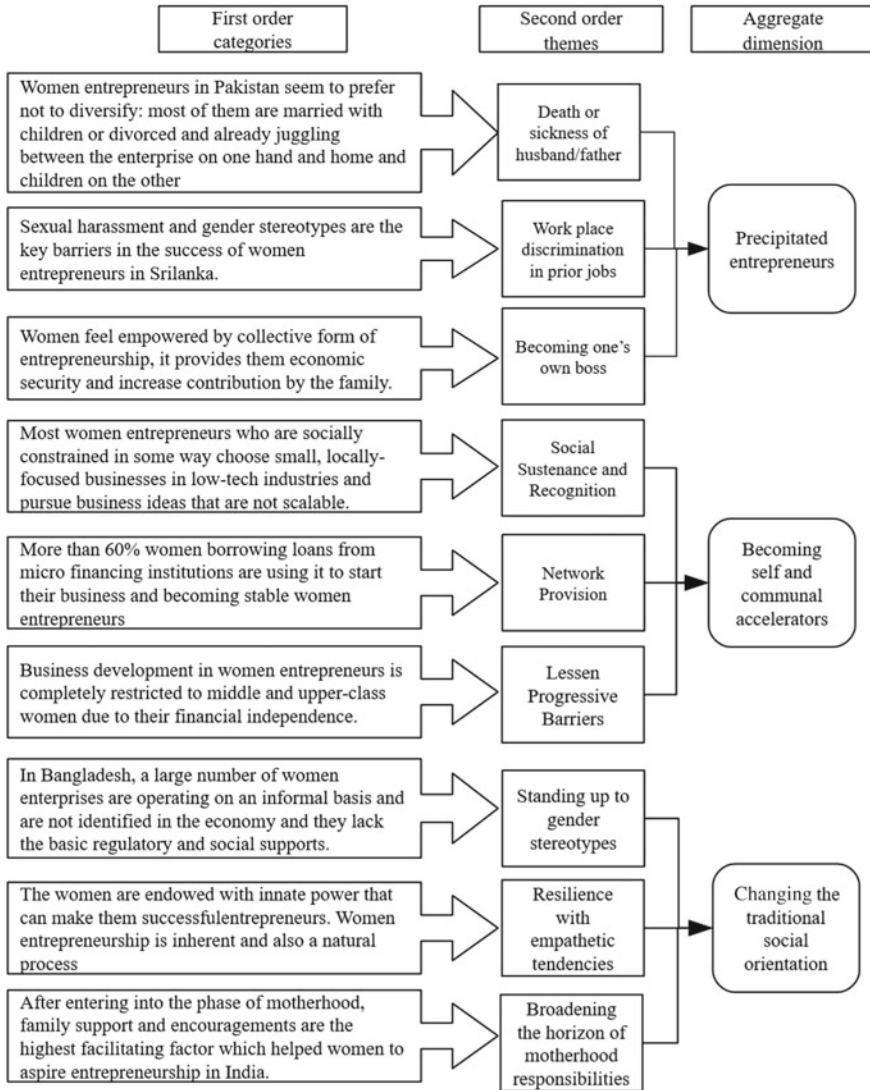


Fig. 7 Analysis conducted on the 30 articles of SAARC countries. Source Author's own figure

loans are very difficult as well and sometimes the females as they belong to poor and middle-class families cannot pledge anything for the loan.

**1. Death or sickness of husband/father**

Perera (2013) has stated that women entrepreneurs must have to design multiple strategies to cope up with the dual responsibilities of work, family and financial support. Moreover, literature suggests that the family lifestyle in these areas shows the

trend of men being the only financial supporter of the family. In cases where fathers or husbands have died, women have been found to step in to meet the needs of their families (Roomi & Harrison, 2010). As the entrepreneurial activities provide benefits from the economic and social point of view, women have emerged in the role of entrepreneurs. Entrepreneurship not only allows female entrepreneurs to demonstrate their potential but it also improves their standard of living. Female entrepreneurs enjoy higher financial benefits and improved family well-being such as better food, health, and education for children. As the business of female entrepreneur grows, they start to become financially more independent. They become self-sufficient in bearing all the operational costs of their businesses and eventually start to help their spouse in meeting household expenses. Women's family responsibilities are one of the factors that forces them from becoming up-and-coming entrepreneurs in both developed as well as developing states. "Taking primary accountability for kids, household and elder reliant family members, only few females can dedicate all time and drive towards their business".

## 2. Workplace discrimination

This theme has subsumed two different sub-themes:

- sexual harassment,
- glass ceiling

Sexually harassment is omnipresent throughout the world as women in every country are exposed to it. Sexually harassment is any non-verbal, verbal or physical act which violates the dignity of female or creates a hostile, uncomfortable, and humiliating working environment. These counters' working behaviors range from unethical jokes, abusive remarks and comments, social exclusion, degradation, humiliation, intimidation, and sexual advancement aimed at working women. Sexually harassment is prevalent in organizations which are characterized by significant power difference between men and women. Due to this power differential, men dominate women in organizational hierarchy and consider themselves as controller of women's fate. Certain men take advantage of this self-perceived dominance, and demand unethical favors in exchange for some desired outcome such as promotion, bonus or pay increase. If a woman attempts to resist such advance, she is threatened by dismissal, reducing work hours or other financial withdrawals. Although men take passing jokes for granted, they still cross the threshold of decency and become offensive for women.

Even if a female manager bursts through glass ceiling and rises to managerial positions, gender stereotypes regarding their natural abilities take over. Women managers are expressive, kind, and supportive, while their male counterparts are believed to be aggressive, autonomous, dominant, controlling, and self-reliant. Women are considered to be misfit for administrative roles as the gender characterization and stereotype lead people to think that they don't have the skills to become a good manager. Female manager tends to be more emphatic and caring, and they attempt to run organization differently. However, these are misunderstood by their subordinates who believe them to be incompetent (Mand et al., 2018). Women are faced by

dichotomy as highly communal female managers are misinterpreted as ineffective leaders; whereas highly energetic females are not considered feminine enough. These preconceived notions adversely affect their managerial potential, and their feminine characteristics are perceived to be at odds with leadership roles. They find no support from their peers and colleagues and become outcast and isolated in the organization. They are left on their own to dig out from this. These discriminatory practices based on stereotyping forced to leave the traditional jobs and enter into self-employment.

### 3. **Becoming one's own boss**

The first element responsible for the growth of women-owned businesses is different perception related characteristics of the individual entrepreneur. Women in third-world countries usually think bad about themselves and they consider themselves as low in self-confidence. A lot of work is done on women's self-esteem (Cabrera & Mauricio, 2017). Women are feeling bad on work due to pressures by fellow colleagues and at the same time they feel that their expertise is worthless as nobody gives them value (Bianchi, Parisi, & Salvatore, 2016). Women feel themselves down due to male dominance despite feminism is prevailing by leaps and bounds. Their attitude changes a lot with respect to time. They can be caring and at the same time they can be aggressive.

## 22 **Becoming Self and Communal Accelerators**

During the SLR analysis, it has been observed by analyzing the number of studies done on SAARC region that the urge to do something for themselves and giving back to the society is common. The following are the few themes which summarize the different perspectives of being a self and communal accelerator for women entrepreneurs.

### 1. **Social Sustenance and Recognition**

Women become successful due to their social skills and knowledge they carry. Women, having skills and knowledge can make better decisions and create friendly environment for their employees (Rajput & Ali, 2009). Now the focus shifts heavily on developing awareness and perception process which consequently points out the importance of local social norms.

Demand and supply create effective role in an entrepreneurial environment. Since women are not socially independent so estimating demand and supply is very important issue for women entrepreneurs (Bianco et al., 2017). However, women are now working hard to grab market knowledge which will help them to make appropriate decisions regarding business. Above finding indicates that predefined policies need to be framed so that entrepreneurial activities will be flourished on continuous basis. The need to get recognized in a male-dominated society is one of the key motivations for many women entrepreneurs.

### 2. **Network provision**

Literature on the financial availability for the women entrepreneurs are limited and not conclusive and research scholars have a different opinion about it. As suggested by Minniti (2009) and Jamali (2009) that women entrepreneurs have to face a challenge to establish and run a business due to limited access and control over financial resources. Further they suggested that women entrepreneurs have less access than men when we talk about financial resources. The most important obstacle a woman has to face is issue of managing and raising finance for their new ventures (Afza & Rashid, 2009). It is observed in one of the studies of Uttarakhand, India that policies regarding issuing loan to women are not as easy as it for males (Lenka & Agarwal, 2017). Since most of the women are uneducated so it is difficult and time-consuming procedures for capital generation due to number of reasons, as a result of which motivation level of women leads to lowest motivational level. It is need of an hour to provide opportunities for women to get loans easily (Mahmood et al., 2014). Platforms should be provided to women so that they can easily obtain loans from banks and financial institutions. It encourages women entrepreneurs to startups new ventures. First Women Bank in Pakistan by the Government of Pakistan is one such great initiative towards developing and encouraging women entrepreneurship in Pakistan.

### 3. **Lessen progressive barriers**

Although women entrepreneurs are instrumental in poverty alleviation, unemployment reduction, and job creation, yet less is known about how entrepreneurship transforms a socially and economically deprived woman into financially independent person whose activities create spillover social and economic benefits (Mahmood, 2011). Women tend to give more time and effort in pursuing non-financial goals such as personal enjoyment, helping others, and social contribution. This is done through spillover benefits created as a result of economic activities of females. These benefits start from individual and then spread to family and ultimately to the entire society. Hence, women entrepreneurs are believed to be crucial for developing a prosperous society. This nascent core dimension consisted of themes such as improved standard of living, benefit to family, role model for others, and social innovation. Family structure and social ties in both high and low-income countries change female entrepreneur behavior. Different cultural contexts may produce a different policy outcome.

Presently, the number of self-employed females is steadily increasing, but most female-owned enterprises are still operating in low-value addition sectors. These sectors demonstrate low growth in profitability and market share. Women-owned business enterprises grow at a slower pace than their male counterparts. This is because women entrepreneurs face problems such as financing, management practice, growth strategies and entrepreneurial policies. According to Sara and Peter (1998) new female entrepreneurs can experience problem in obtaining startup capital, credit guarantee, capital for investment. On the contrary, man engages more in entrepreneurship due to better access to capital. Unlike men, women are believed to be motivated by non-economic goals and spend more time in pursuing social goals. Women are believed to have conservative attitude towards growth and their business plans focus on moderate expansion. It may be attributed to the “time constraints imposed by family responsibility”.

Existing literature on female entrepreneurship focuses on individual, social and institutional factors. However, individual factors alone are not sufficient to fully describe entrepreneurship. Population ecologist claims that the macro-level variables have bearings on new enterprise formation. Therefore, a more comprehensive definition of entrepreneurship should include social and contextual factors. This is more relevant for the study of entrepreneurship in women since “macro-level factors seek to explain (female) entrepreneurial venturing, growth, and change by considering a generic set of broader impersonal institutions, including political, economic, historical, social, cultural and educational institutions”.

## **23 Changing the Traditional Social Orientation**

A typical and traditional social context is observed in most of the countries of SAARC region. To counter those problems and barriers, different cases have been found in the articles during SLR. The following are the themes that addressed the respective issue.

### **1. Standing up to gender stereotypes**

Gender stereotypes, responsibilities, and duties towards families, society pressure, and commitments towards family has proven to act as main hindrance for females to be entrepreneur (Brush et al., 2009). According to Agarwal (2017) in the traditional society because of conservative thinking of female opposite counterpart they expect female to be only home agent and is against her other activity. According to social theory role it also states behavioral features of males and females based on social role they play in society. It based on particular behaviors, relations, and associations a person has with other people and society. In most societies females are considered weak and timid, they have more interest in the well-being of others, they are selfless and with less power (Haq et al., 2014). As compared to females males are more powerful and dominant.

It is very difficult for females to balance between their home and work if they ignored they are being socially pressurized for not performing their responsibilities efficiently. But our findings exhibit a different trend that stereotypes can be reversed as well. Females can manage their work and home efficiently if they are determined and dedicated. Family support is the most motivating feature for the success of any female business venture, emotional or financial support boosts the confidence of females to explore their ability in the business sector. On the other hand in some families due to conservative thinking it's against their ego if their females work for bread and butter of their families.

Women working in developing economies face number of security and safety issues. There are a number of stories such as harassment, killings, threats, and rape of female vendors this result in fear, stress, and constant fear women. Further they feel that they have not equal opportunities to freely start their business.

## 2. Resilience with empathetic tendencies

Literature also pointed out the societal constraints and normative constraints that female entrepreneurs are facing in their business. Moreover, women also faced number of other issues due to cultural, societal and religious values are not supported females to start their own business. So, it is difficult for them to start the business of their own choice. In male-dominant societies it is considered that entrepreneurship is appropriate for males and not for females. This perception is based on traditional male-based stereotypes.

Since entrepreneurs required some training and development sessions to prepared themselves for starting a new venture (Ebbbers & Piper, 2017). Formal education and training will help women entrepreneurs to run their ventures successfully (Bogren et al., 2013). Every girl should be provided meaningful entrepreneurship education. University faculty members have to create such a curriculum that promotes women to look forward their career as an entrepreneur. Thus entrepreneurial mindset and culture of entrepreneurship will be created among female students. Training should be provided by successful women entrepreneurs to female students (Hyder & Lussier, 2016).

It is necessary to know what women have to face social and economic issues. Parents, friends, siblings, husband, and relatives are key players of successful women entrepreneurs. Demands and supply will create issues in new business. It is necessary to know what to produce what to be offered at what time. A successful entrepreneur has the ability to overcome these issues.

## 24 Broadening the Horizon of Motherhood Responsibilities

The concept of Motherhood was given by Brush et al. (2009) in their famous 5M framework. "Motherhood is a metaphor representing the household/family context, thus, drawing attention to the fact that family/household contexts might have a larger impact on women than men." (Brush et al., 2009, p. 9). Cultural norms assign roles to men and women on the basis of their gender. The cultural and social norms dictate that family and childcare are responsibilities of women. Females are expected to work as housewives and look after their children; while men are free from such responsibilities. Domestic obligations and familial duties force women to give more time to home and child-rearing; thereby making continuous work virtually impossible. Resultantly, they are left with very little time for their business. They make this up by working in double shifts to fulfill household and business-related tasks. Family duties make the decision regarding expansion of business more complicated for women. Female entrepreneurs don't pursue business expansion if they feel this expansion to be in contradiction with their domestic and familial responsibilities. Therefore, care of children, domestic obligations and longer working hours in home have negative effect on the growth of female-owned businesses. But, women didn't

give a second thought when their family especially children started to suffer and they reduced their workload.

## 25 Future Research Implications

Entrepreneurship related theories have emerged from western and developed countries. These theories fail to incorporate the idiosyncratic factors of developing countries. This study aims to present the existing and substantive studies done on emerging economies in particular SAARC region. There were no studies found relating to countries like Afghanistan, Bhutan, and the Maldives. Entrepreneurship is a universal phenomenon, and every country can benefit from the activities of entrepreneurs. Therefore, instead of relying on the frameworks developed in the context of developed countries, research may become more practically useful by acknowledging the importance of contextual factors of a community, society or country.

This study advocates the need to develop a pluralistic and multilevel perspective in studying female entrepreneurship. Taking lead from this, future studies should take into account the interaction between individual characteristics and contextual factors studying different aspects of entrepreneurship. From a generalized view and concentrating only on external factors may be insufficient as it presents only one side of the picture. Therefore, equal importance should be given to micro-, meso- and macro-level factors while studying the phenomenon of female entrepreneurship in emerging countries.

Economic theorist characterizes women-owned businesses as low growth. However, this is not the case. Female entrepreneur gives more value to non-economic factors especially family responsibilities. Hence, they don't follow 'bigger is better' approach. Researchers are required to change their perspective regarding women entrepreneurship. Labeling female entrepreneurial activities as low growth is irrelevant since women pursue entrepreneurship as a means to achieve personal and social goals instead of economic goals. With this new perspective, research on women entrepreneurship can be extended by theoretically, methodologically, and philosophically.

## 26 Conclusion

In most of the SAARC countries, female entrepreneurs are not getting the same facilities and opportunities as available to male entrepreneurs due to discriminatory social and cultural values which are deep-rooted into their traditions. Due to greater gender inequality, there is low degree of female entrepreneurial activities. Many females suffer from lack of training and development, assistance in starting venture, access to capital, land and other resources as there is inherited attitude and concept of male superiority to females. They also receive very little appreciation and encouragement



from their family members. They also have to face issues in raising capital for their business due to which their business remains underdeveloped. Due to restriction in mobility, women are compelled to work from home, and they mostly operate in traditional sectors which are characterized by low growth.

Liberal feminist theorist believes that women are equal to men in rational capacity. Given the right circumstances, they can exploit these opportunities. Different psychological and contextual factors contribute towards growth of the women-owned enterprise. These facilitating factors operate in conjunction with different barriers and help the female entrepreneur to overcome different cultural and institutional obstacles. Due to positive influence of these factors, women-owned business starts to flourish, and she embarks on the journey to becoming a successful entrepreneur.

Previous research studies on female entrepreneurship highlight its role in the social and economic development of a country. However, investigation of the specific process through which women entrepreneurs are able to achieve this has remained under-researched. Our analysis of the existing literature suggests that this transformation is accomplished through interaction between individual characteristics of entrepreneur and social and cultural factors. Aggregate dimension developed from the analysis indicates that peculiarities and idiosyncratic feature of social, cultural, and institutional factors of countries decide the success and failure of new business ventures.

Researchers concur that social, cultural, and economic factors of a country affect entrepreneurial activities taking place in it. A considerable amount of literature illustrates that women belonging to underdeveloped countries enter into entrepreneurship under the influence of economic necessity. Due to financial and economic constraints, women are unable to satisfy their basic needs. They are left with very few career choices. Women are forced to work in the sectors which are regarded as socially acceptable. Cultural and social norms of these countries demand that women operate their business activities from home. Moreover, gender-based characterization results in sex-based differences, discrimination, privilege, and power in the workplace. Marginal group members have to fight against the stereotypes prevalent in a given society. In this way, gender stereotypes may give an incentive for women entrepreneurs to step up against social oppression and prove their worth. Therefore, under the influence of different contextual factors, women decide to become entrepreneur in order to improve their social and economic position. This shows that variation in the level of entrepreneurial activities within a country can be explained in terms of social environment in which a new firm is created.

However, the growth of women-owned businesses may be hampered by financial constraints. Women are prone to discriminatory practices from loan crediting agencies. Therefore, access to credit and microfinance schemes becomes critical to their progress. Access to capital alone cannot guarantee success for women endeavors, and equally important is the support from society especially family. Although considered to be an extension of socio-economic factors, the latest literature on entrepreneurship has begun to incorporate the family context of entrepreneur. In order to balance between family and work, married women with younger children prefer to become entrepreneur over traditional jobs. Women exhibit low propensity towards business

growth as they are likely to give more importance to their familial responsibilities especially their children. Microfinance initiatives along with familial, social, and institutional support can improve self-efficacy of the entrepreneur and help their business flourish.

Apart from different contextual factors, individual characteristics and psychological characteristics of an entrepreneur are equally important. Among these, self-efficacy becomes vital. Previous studies have ascertained the importance of self-efficacy in new business startups. It allows owners to have confidence in own abilities to survive in a highly risky environment and stand in the face of adversity. Females are traditionally believed to be risk-averse. Their perceived fear of failure can be minimized through self-efficacy as it allows an individual to become resilient in the face of adversity. Another important perceptual factor is the presence of a role model. Decision to engage in a particular activity such as entrepreneurship is often inspired by someone having similar identity. Similarity hypothesis proposes that women are more likely to be influenced by other women who possess similar characteristics. Role identification with a successful entrepreneur can change the cognitive mindset of potential entrepreneurs. Having a role model has significant bearing on the individual's intentions to start own business and make it successful. They encourage female entrepreneurship to pursue non-traditional career choices by demonstrating how to become successful people.

Activities of a female entrepreneurs are more beneficial to a given region or community as compared to their male counterparts. This is because a greater number of people benefit from their activities. They improve the standard of living of their families. Women entrepreneurs are able to provide better health and education facilities to their children. These children may in turn have a positive influence on society. Spillover benefits of these activities extend to society. Women entrepreneurs actively start to take part in social welfare-related activities. After successfully establishing their businesses, they can provide employment to others. Successful entrepreneur provides experiential knowledge to others which reduces information ambiguity for others. Hence, successful women entrepreneur turns into social entrepreneurs. Hence, entrepreneurship allows women to become financially independent and helps them in achieving higher standard of living which may in turn be used for social innovation purposes as well.

This study not only highlights the existence of different barriers to the growth of female-owned business but also provides prescriptions for overcoming these impediments. Authors unanimously concur that women entrepreneurs are contributing towards economic and social growth, wealth creation, poverty alleviation, and unemployment eradication. However, before becoming a successful entrepreneur, women have to overcome many social, cultural and institutional barriers. Women are pushed into entrepreneurship due to social and cultural challenges, economic hardships, and different workplace discriminatory practices such as sexual harassment, glass ceiling, and gender stereotypes. Moreover, growth prospects of women-owned business ventures are seriously hampered by the role conflicts at home and work, financial constraints, and inhibiting institutional factors.

## Appendix

Countries	Two-word key
Afghanistan	AF
Bhutan	BT
Bangladesh	BD
India	IN
Maldives	MV
Nepal	NP
Pakistan	PK
Sri Lanka	SL

Source Author's own table

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# What We Know About the Greenability of Reality Technologies: A Systematic Literature Review



Alireza Khakpour, Mary Sánchez-Gordón and Ricardo Colomo-Palacios

**Abstract** Information Technology (IT) is crucial for many innovations in products, services, and processes around the globe. However, IT is growing in importance in the share of energy consumption in the world. As a reaction to this negative effect, the so-called Green IT movement emerged. This field of study is aimed to reduce IT-related energy consumption and overall IT environmental impact including a variety of aspects like power consumption, lower carbon emissions and their environmental impact. One of the leading technologies in the IT arena is Reality technologies including Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR). These technologies have impacted sectors like Real Estate, Education, Healthcare, Marketing, Travel and Manufacturing, citing just some of the most relevant application areas. Taking into account the importance of these technologies and the expected impact in the future, authors conducted a systematic literature review devoted to investigate their “greenability”. Authors are aware of the importance of the topic and aim to identify, evaluate, and synthesize research published concerning aspects like energy consumption and eco-effectiveness of main reality technologies. By searching five major bibliographic databases, 5596 articles related to the topic were identified and 49 of these papers were selected as primary studies.

**Keywords** Sustainability · Greenability · Eco-effectiveness · Eco-friendly · Virtual reality · Augmented reality · Mixed reality

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_5](https://doi.org/10.1007/978-3-030-35415-2_5)

# 1 Introduction

Information technology (IT) as an inevitable part of human's life has a devastating impact on environmental-related concerns, taking from energy consumption to provoking eco-effective and eco-friendly practices. The last two decades, being the age of information, mutated every aspect of mankind's life. This pervasive presence of IT clearly had an enormous share of energy consumption and the increase of environmental pollutants. It has been claimed that the Information and communications technology sector could use 20% of all the world's electrical energy and by 2025 will eventually emit up to 5.5% of the total CO<sub>2</sub> (Andrae, 2017). As a result government authorities, industry players, and researchers are increasingly struggling to increase the efficiency and sustainability of IT infrastructures, services, processes, and products.

Consequently, the topic of Green IT has emerged. Green IT can be defined as the set of practices and efforts to improve energy efficiency, reducing greenhouse gas emissions, minimizing the use of eco-unfriendly material, and provoking environmental friendly activities, all of which can contribute to a better environment. In this context, it is important to identify the sources of IT impacts and issues on the environment. There have been various studies regarding this topic and a set of major roots of these impacts have been recognized. For instance, manufacturing computers, the total energy consumption, computer components toxicity, the heat produced by IT systems, and data centers (Murugesan, 2008).

Furthermore, other than efforts towards greening IT, IT itself can be used to support and provoke environmental initiatives by various means, such as, software tools for environmental risk management, platforms for eco-management, environmental knowledge management, urban environmental planning, and incorporating environmental sensor networks, to name a few (Murugesan, 2008). In fact, some technologies have been used in this regard. One of them is reality technologies, called as virtual reality (VR), augmented reality (AR), and mixed reality (MR). However, they can be considered as a source of pollutants and a tool for leveraging eco-friendly practices.

In recent days, VR as a promising solution for the improvement of the increasing human-computer interactions tends to enter into the more tangible world of reality. Moreover, its integration into the real world optimizes the way human beings are communicating with the computer in a hybrid virtual-real environment. This, in fact, is the primitive definition of the concept of MR provided by Milgram and Kishino (1994), defining it as "*VR related technologies that involve the merging of real and virtual worlds*". They further introduce the concept of Virtuality Continuum that presents the connection of virtual environment and real environment in the form of two sides of a continuum. The MR is in the middle of this continuum and the AR, is an injection of VR into the real world, stands in between these phenomena. Although, this concept has been one of the early interpretation of the technology, still is the rationale for development of reality technologies by companies like Microsoft (BrandonBray, n.d.).

The immersive filling of VR makes human as the user of the interactive system to lose communication with the real physical world. The complete immersion in the virtual world can result in a situation that the context of the physical world such as space, time, physics, and material properties do not govern anymore. On the other hand, the extent to which the physical properties of the real environment are mixed with the virtual world can have a significant effect on the quality of interaction.

In this context, deployment of the so-called MR gave a rapid momentum to the development of VR based applications that mix with the real world. MR has been used in many different applications, wherever merging the real and virtual environment can add to the quality of the interaction of the human with the system. Education, entertainment, training, industrial design, archaeological excavation, urban environment, and health-related applications are to name a few (Behringer, Christian, Holzinger, & Wilkinson, 2007; Benko, Ishak, & Feiner, 2004; Bulman, Crabtree, Gower, Oldroyd, Lawson, & Sutton, 2004; Fiorentino, de Amicis, Monno, & Stork, 2002; Hughes, Stapleton, Hughes, & Smith, 2005).

Overall, given that these emerging technologies are increasingly integrating into human's life, the energy efficiency and sustainability become a significant issue to tackle. Reality technologies often include computational intensive activities that need a high rate of energy consumption and can lead to negative eco-effectiveness. On the other hand, considering their great potential towards human-computer interaction, they can be a valuable source of eco-friendly activities. Therefore, there are an increasing number of studies regarding these topics, however, to the best of our knowledge there is no systematic literature review that scrutinizes the current research efforts, identifies the research gaps, specifies the future research directions and in general, develops a holistic view for sustainability of reality technologies, which is the target of this study.

The rest of this study is structured as follows: we first explain our methodology towards conducting this research in next section, where research questions and research processes are described. Then the results of the study are presented in detail, and finally conclusions and prospective future works are provided.

## **2 Methodology**

### ***2.1 Motivation and Goal***

The ever-growing proliferation of reality technologies along with increasing concerns about environmental impacts of IT-related innovative technologies have raised the significance of conducting new research to investigate the existing literature about eco-effectiveness, energy consumption, and in general, greenability of such phenomena. Hence, the goal of this study is to investigate the current and accessible literature in order to identify, evaluate, and synthesize research published about this topic. As a result, we amalgamate our findings towards an insight to the topic along



with trends, directions, and gaps in this field. To do so, we utilized a well-known research methodology, so-called Systematic Literature Review (SLR), based on the guideline provided by Kitchenham (2004). An SLR is one type of literature review that investigates scientific studies in a systematic approach towards collecting all of the information available in the literature. It is worth to note that preliminary research was conducted prior to this study so that to the best of our knowledge this is the first SLR conducted on this topic.

After identifying the need to perform this study, we further develop a protocol consisting of the research questions addressing by this study, the search strategy, literature selection criteria, and the data extracting techniques.

## ***2.2 Research Questions***

The first step towards conducting this research is to formulate the research questions. These questions are formulated based on the main goals of this SLR, being an investigation of sustainability, eco-effectiveness, and eco-friendliness of reality technologies. Therefore, following three research questions are generated and addressed.

RQ1: What are the reported benefits in terms of sustainability on the use of Reality Technologies?

RQ2: What are the reported attempts towards making Reality Technologies eco-effective?

RQ3: To what extent the use of Reality Technologies is eco-friendly according to the literature?

## ***2.3 Search Strategy***

Based on the guidelines, the first step to extract the related literature is to set up a search string. By using it, all of the search resources are being explored. For this purpose, we first conducted a set of preliminary searches based on various keywords related to the topic and modified the search string in an iterative manner. Finally, we concluded on multiple search terms and the following search string was generated:

(“energy consumption” OR “power consumption” OR “Green IT” OR “Green Information Systems” OR “Green IS” OR “IT for Green” OR “IT Energy Management” OR “Green Computing”) AND (“Mixed reality” OR “Virtual reality” OR “Augmented reality”).

The search term is structured by using the Boolean operators that are used by all of the search engines to narrow down and focus the search results. Furthermore, in order to search all of the available literature about the topic, various search resources were identified. These resources were the most popular literature databases in the field of

**Table 1** Summary of search results

Source	Number of search results	Number of papers retrieved	Number of selected papers
IEEE Xplore	3227	46	27
ACM Digital Library	635	10	9
Springer Link	751	17	8
Science Direct	983	9	5
Total	5596	82	49

Source Author’s own table

computer science that are also considered in previous studies with a similar approach (Sánchez-Gordón & Colomo-Palacios, 2019). The chosen scientific databases are, IEEE Xplore, ACM Digital Library, Springer Link, and Science Direct. The summary of the search results is shown in Table 1.

## 2.4 Study Selection Criteria

After retrieving the search results from different sources, the next step is to filter the related papers to our study topic. This process was carried out first by reading the title, abstract, keywords, and fast screening through the text of each study. Moreover, the unrelated papers were excluded based on exclusion criteria, setting aside those related. The inclusion criteria were as follows:

- Literature related to reality technologies.
- Literature addressing the energy consumption or eco-effectiveness of reality technologies.
- Literature published from 2014 onwards.

In contrast, the exclusion criteria were as follows:

- Literature that are in a language other than English.
- Literature that are not accessible in full-text.

## 2.5 Data Extraction

Following the inclusion and exclusion criteria, a relevant set of papers was collected and stored in a reference manager known as Zotero. Before going further into the data extraction phase, every paper was assessed to ensure that the quality of each

**Table 2** Data collection form information

Type	Data
Standard information	Title, Authors, Publication year, Journal or Conference name, Publisher, Paper Type, Number of Citation, Average Citation per year, Date of Extraction
Inclusion and exclusion criteria	Language, Peer-reviewed, Exclusion reason
Research questions	Extent to which each research question is addressed by means of a scale from 0 to 1 (RQ1, RQ2, RQ3)
Answers to research questions	Reported benefits in terms of sustainability, reported attempts towards eco-effectiveness, and the extent to which VR, AR, and MR are eco-friendly
Study quality evaluation	Checklist (Bias, Validity, Generalizability)

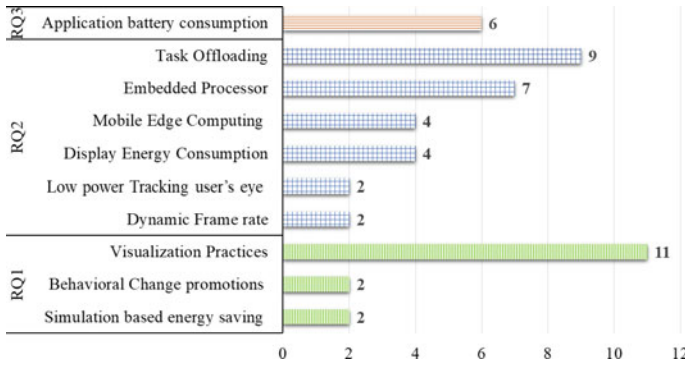
*Source* Authors’ own table

paper is acceptable. Papers that do not satisfy the requirements were excluded from the list. Then, each of the papers succeeded to pass the quality assessment criteria was reviewed accurately in order to extract the required data corresponding to the research questions. The process of reviewing papers was carried out in two stages, and a data collection form was created to document the data in the form of an excel spreadsheet. In the first stage, the standard information of each paper such as title, authors, year of publication, name of publisher, as well as type of publication either being a scientific journal, a conference proceeding or a webpage were extracted. At the same time, papers were classified into different categories based on their content, that is, the topic they are addressing and the approach they have taken towards tackling the subject. In the second stage of this review, each paper was reviewed closely to answer one or more of the research questions of our study, which was later used as a basis for the result of this study. The list of various types of data collected is given in Table 2.

### 3 Results

After conducting the research in all of the resources and choosing the related papers based on the inclusion and exclusion criteria as well as the quality assessment, 49 studies were found as primary studies. Table 1 shows the number of papers retrieved from each of the sources in different stages of this review.

In this section, we present the results of the systematic literature review carried out in this study. In this regard, we carried out categorization of the findings in such a way that the contexts of the papers under investigation fit in the answers to our research questions. For this purpose, we first classified the studies based on their study focus, and 10 different categories were identified. Figure 1 shows the categorization of the papers. The patterns in the figure present the research question each topic addressed.



**Fig. 1** Categorization of the primary studies. *Source* Authors’ own figure

The horizontal lines bar shows the topic regarding RQ1, grid bars are related to RQ2, and the vertical lines bars demonstrate the topic addressing RQ3.

After the classification of the papers, each of the studies were assigned towards answering the research questions. The categories are related to each research question. “Visualization”, “Behavioral change”, and “Simulations” are tackling RQ1. “Task offloading”, “Embedded Processor”, “Mobile Edge Computing”, “Display”, “Low power tracking user’s eye”, and “Dynamic Frame rate” focus on RQ2. Finally, “Application battery consumption” is focused on RQ3. As one can see, the most number of primary studies (11) are related to the “Visualization” in which reality technologies are used as an interaction medium in different environments. That means participating in sustainability by visualizing certain information to the user. The second most popular topic (9) that researchers reported is “Task offloading”, where tasks offloading to cloud are utilized in order to disseminate the computation load of the reality technologies, hence, increasing the latency while reducing the power consumption. Next category is towards energy consumption of processors, in particular, “Embedded Processor” (7), that is specific to computation power of various reality technologies, such as augmented reality.

Furthermore, there are primary studies investigating the reality technologies application battery consumption (6), and their display performance (4), mobile edge computing (4)—as an specific way of offloading tasks—, simulation based energy saving (2), motivating users towards some sort of behavioral change activity (2), developing strategies and techniques for low power tracking of user’s eye (2), and techniques that focus on frame rate of the pictures to reduce the energy consumption (2). Next section explains each and every category in detail. There is the possibility that some of the categories seem to overlap each other, which is a consequence of synergic effects of using reality technologies. Hereinafter, primary studies are referred to as S1–S49 (see Appendix).

### **3.1 RQ1: What Are the Reported Benefits in Terms of Sustainability on the Use Of Reality Technologies?**

#### **3.1.1 Visualization**

The first and mostly considered application of reality technologies has been towards visualizing some kind of information that supports users for carrying out a specific sustainable activity. Studies concentrating on the visualization application of augmented realities further divide into 4 types, namely, “visualization for building’s energy management”, “visualization to improve and facilitate design in engineering practices”, “visualization for sustainability in industrial environments”, and “visualization for lowering power consumption of devices”.

##### *Visualization for building energy efficiency*

Regarding visualization for building’s energy management, authors in (S1), presented a method of integrating the various sensor nodes that are available in smart buildings with their respected 3D virtual model. The model is developed using a method called building information modeling (BIM) (Patti et al., 2017). In this way, they are providing the building energy managers the possibility to investigate the building’s energy-related parameters such as temperature, humidity, and energy consumption through virtual and augmented reality. Moreover, authors developed an android application that facilitates this integration. As a result, authors claimed that in this approach, building designers, managers, and decision-makers can share and use a unique set of data as well as the potential to process these data in real-time, which leads to sustainability of energy management of buildings.

In a similar study, authors in (S2), developed a system that combined BIM and virtual reality for building indoor lighting design (Natephra, Motamedi, Fukuda, & Yabuki, 2017). This study considers the building energy efficiency by using the visualization capability of the VR in the design phase. The results of the study demonstrate that the BIM-based lighting design feedback system provides the designers the ability to better formulate the lighting conditions in such a way that a better lighting satisfaction is gained while the lower energy consumption is maintained.

In another attempt toward, optimizing the energy efficiency of buildings, authors in (S3) focused on the energy consumption of health smart homes (Kim, Lee, Wang, & Kim, 2015b). Health smart homes are meant to be the buildings that utilized smart technologies in order to provide residents with a healthy and safe environment to live. Authors provided a Mobile Augmented reality (MAR) application that visualizes the energy consumption in various home settings in order to create awareness and therefore promoting energy-efficient activities in smart homes. In this study, the fact that providing feedback to the residents about their energy consumption has a significant effect on encouraging energy-efficient behaviors. Consequently, an energy consumption awareness system has proposed that measure the energy usage

of various electronic devices and present the users with an energy consumption report whenever user points the augmented reality application towards that specific electronic device.

Furthermore, in a more recent study (S4) an energy management system having an augmented reality interface is proposed (Cho, Jang, Park, Kim, & Park, 2019). In this paper, an AR application based on an android device, which has the ability to visualize the sustainability of buildings, is proposed. Authors in this work created a city diorama that consists of multiple buildings, such as, office building, home, hospital, and shopping complex. The energy consumption and operation state of lightings and air conditioners are visualized when the AR application is pointed towards each building. This study is another attempt towards sustainability of smart cities by the fact that the AR visualization of energy parameters can influence the greenability of cities.

#### *Visualization enhancing sustainable design and development*

In a different perspective, reality technologies have been used widely by researchers towards facilitating and enhancing the design and development practices in various fields. One such attempts has been presented in (S5), where authors use virtual reality technology to encourage the design and development of a facility called “green deck” (Au, Yiu, & Fung, 2018). It is in fact, to isolate the pedestrian people from the congested traffic situation of a busy road tunnel, which is called a zero-carbon emission platform. The demonstration of this design is carried out by the means of virtual reality. The authors concluded that VR technology can facilitate the process of encouraging buildings of green facilities in the context of social innovation.

Likewise, in order to develop the design and manufacturing processes of energy-efficient products, virtual reality proved to be an effective technology. Taking into account the manufacturing of energy-efficient machine tools, the study in (S6) presented a virtual reality visualization solution of energy flow through machine tools based on three different visualization techniques: billboard, diagram, and a particle system. Such a solution shows energy flow in colored particles, after which comparison has been made among the different techniques of visualization to find the best solution (Pelliccia et al., 2016). The authors also conducted a survey by carrying out a user test by real machine tools energy data. As a result, most of the participants agreed that the particle system is the best solution since the energy flow and its direction demonstrated clearly and intuitively, as well as the power source and the components absorbing the power are demonstrated.

Last but not least in the design optimization is the study in (S7), where their authors proposed a CAD transfer approach to visualize the thermal simulation in an immersive virtual reality environment (Nugraha Bahar, Landrieu, Pére, & Nicolle, 2014). The result of this paper has made the data flow, which begins in the design phase, possible to demonstrate, and hence visualizing the building energy performance using VR. However, the authors concluded that understanding and transferring the CAD data into a virtual design is a relatively difficult and challenging task.

### *Visualization for lowering power consumption of devices*

In another approach towards utilizing the visualization capability of reality technologies, there has been number of attempts for visualizing the energy consumption of individual electronic devices in order to provide effective feedback that leads to some energy-efficient behavior or decisions. In this case, the work presented in (S8), showed an AR-based system for demonstrating the energy usage of electronic devices in a smart home. Here, the authors claimed due to an increase in energy consumption awareness, the energy-efficient decisions can be taken (Purmaissur, Towakel, Guness, Seeam, & Bellekens, 2018).

However, the above-mentioned work can only provide the data that is previously stored in a database system and this data should be updated manually from time to time. Therefore, this is not a generalized solution for other environments. To tackle this issue, the work presented in (S9), combined the visualization power of augmented reality and the real-time data collection potential of Internet of Things (IoT), to not only provide users with an interactive interaction with energy consumption of instruments and devices, but also managing and updating the data in real-time and an efficient manner (Ho & Chui, 2019).

In a more comprehensive manner, authors in (S10) created an AR-based tool that scans the surrounding of the user and visualizes the energy consumption of available electronic devices, as well as providing the user with some tips to carry out an energy-saving activity (Bekaroo, Sungkur, Ramsamy, Okolo, & Moedeen, 2018). This study takes one more step forward and tries to evaluate the user's knowledge about energy consumption by giving him/her an integrated quiz, which is also considered to be a knowledge gain activity. According to the authors, this application improves the user's knowledge regarding energy efficiency of devices by almost 40%.

### *Visualization for sustainability in industrial environments*

Last but not least, is the application of the visualization potential of reality technologies in industry. In this category is the study presented in (S11). The authors proposed a system that computes and visualizes the energy consumption of the equipment of an industrial 4.0 sophisticated manufacturing line (Amici, Filho, & Campo, 2018). This primary study used the Industrial Augmented Reality (IAR) to monitor energy consumption, current and voltage of every individual equipment in the production line. The mounted IoT sensor data send the data to an IAR database which itself is made available through a wireless local area network for the handheld devices. As a result, an enhanced energy problem-saving platform is demonstrated.

## **3.1.2 Behavioral Change Promoting Practices**

Another approach of benefiting from Reality technologies towards sustainability is to utilize their potentials of visualizing and entertaining for the purpose of human behavioral change for the sake of energy efficiency. In this regard, two relevant studies were found in this review. The study presented in (S12), developed an augmented reality prototype that uses IoT based sensor data to promote energy-efficient

activities to students in a lab environment (Mylonas, Triantafyllis, & Amaxilatis, 2019). While the study presented in (S13), provided a comprehensive system that not only visualizes the energy-related information to residents but also offers them some tips for possible energy-efficient activities including the possibility of sharing some appliances, as well as, presenting them some interactive functions in order to educate the residents for the long term success of the system (Chou, Chiang, Wu, Chu, & Lin, 2017).

Finally, it is worth to mention that a number of studies focused on the visualization power of Reality Technologies to promote energy-efficient behavior have already mentioned in last section. However, they are not solely focused on the behavioral change of humans but also they do not take into account the long term nature of behavioral change practices. In fact, only the potential approaches are mentioned without further extensions.

### **3.1.3 Simulations Based Energy Saving**

The use of Reality technologies for providing simulations towards affecting the sustainability of activities that carries some kind of pollutions is another interesting category. The study carried out in (S14) proposed a concept of using VR for simulation of railway driver training (Ćwil & Bartnik, 2019). Given that the railway driving training takes place in a real environment, various pollution concerns raises and hence, the simulation of this task using VR technology can have a positive effect on sustainability. Another study that uses VR for simulation is presented in (S15). Here, a system for the study of electric vehicles is proposed (Nacu, Fodorean, Husar, Grovu, & Irimia, 2018). The simulation of electric vehicles prior to operating them in a real environment is crucial since the potential impacts of the failure of electric vehicles are high. Therefore, VR technology has another effect on sustainability by stimulating this process.

## ***3.2 RQ2: What Are the Reported Attempts Towards Making Reality Technologies Eco-Effective?***

In order to address this research question, we reviewed the primary studies that attempted to lower the energy consumption of reality technology devices by optimizing their hardware or software platforms. In this case, five major categories were identified. Offloading the computation tasks to the cloud environment, optimizing the inner processors of head mounted devices, optimizing the performance of the display of virtual reality head mounted devices, using mobile edge computing to disseminate the heavy computing tasks into cluster nodes, and lowering the power consumption of tracking user's eye which is a significant task for VR technologies that increasing the efficiency of frame rates in VR displays.



### 3.2.1 Offloading the Computation Tasks and Mobile Edge Computing

As the augmented reality gets more popular every day, tackling its limitations have been one of the main focus of researchers. One of these limitations is the low battery capacity of wearable and handheld devices that often requires to do high computation tasks. As a consequence, some techniques have been proposed to lower the power consumption of these devices however offloading the computation tasks of AR applications into cloud has shown a promising result to lower the energy consumption.

To this end, there have been number of studies focusing on offloading tasks into cloud. One of such is the study presented in (S16), where the authors proposed a platform for uploading AR applications into cloud servers (Shea, Sun, Fu, & Liu, 2017). Authors examined their framework using the Pokemon Go game and found that there is a considerable energy saving, lower latency, and a very good image quality. Furthermore, the study in (S17) presents a mobile augmented reality (MAR) system that provides a notation display service with low energy consumption on standard handheld devices. This system uses a mobile device's local inertial sensors for recognizing and tracking various objects instead of identifying them by image processing in the cloud and only offload images whenever necessary (Chen, Li, Kim, Culler, & Katz, 2018).

In another study (S18), their authors provided a set of guidelines for offloading the computation task of AR applications on wearable devices into the cloud (Shi, Yang, Huang, & Hui, 2015). These guidelines comprise as, (i) offloading applications only to nearby devices, (ii) using all means of communication, such as WIFI and Bluetooth, without using schedulers that decide on offloading or not, (iii) simplification of wearable device for deciding on sending and receiving offload task, and (iv) offloading all of the recognition tasks, such as object recognition that are computation expensive. Following these guidelines is expected a better energy efficiency of the wearable AR device. In fact, the study (S19) followed these guidelines to offload the vision processing task of an AR indoor navigation system in order to reduce the power consumption (Noreikis, Xiao, & Ylä-Jääski, 2017). That study implemented a specific task scheduling algorithm that further result in energy saving of the AR device.

In a more innovative manner, the study in (S20), proposed a method for offloading the tasks of the Graphics Processing Unit (GPU) of an AR device to the GPU of another device in the same environment (Lee, Choi, Kim, Han, & Kang, 2016). That study examined their proposed technique with an AR game and found that there has been an extensive overall decrease in energy consumption. This extensive decrease also was mentioned in the study presented in (S21), where authors claimed a high value of up to 93% in energy consumption of user equipment with the help of computation offloading (Dolezal, Becvar, & Zeman, 2016). On the other hand, transmitting the offloading task into the cloud and other devices itself requires some energy consumption, although much lower than the local computation of tasks. Although two recent studies presented in (S22) and (S23) provided specific ways of tackling the power consumption of data transition into the network (Chakareski, 2019;

Qvarfordt, Lundqvist, & Koudouridis, 2018), the energy consumption of ultra-high-transmission-rate has always been the concern of researchers, especially in the field of Mobile Edge Computing.

Mobile Edge Computing is a recent development in cloud computing technology that provides cloud computing services at the edge of the radio access network close to the mobile devices which improve performance of transmitting offloading tasks (Chen, Jiao, Li, & Fu, 2016). Therefore, Mobile Edge has been used as the main location for AR application task offloading. In this vein, the study S24 investigated the task of context recognition by offloading it to the mobile edge, but, they have evidence that a less stringent delay constraint is more significant for the classification accuracy than the lower energy consumption. In another attempt for energy efficiency of offloading tasks into mobile edge, the study in (S25), presented a Mobile AR design for companion drones that comprises a method of transferring computation tasks into cloud edge. The results revealed an improvement of 49% in power consumption compared to traditional methods of transmission (Meng, Meng, Yue, Zou, & Wang, 2018).

Additionally, the study in (S26) addressed the data transmission of mobile VR delivery to the cloud (Dang & Peng, 2019). Here, the fog radio access network, which is a promising mobile network used in 5th generation of mobile services, is used for lowering the power consumption of task delivery to the cloud. Another innovative study presented in (S27) provided an approach for partitioning the offloading task and transmitting each partition to one edge node so that multiple nodes cooperate to complete the AR task (Liu & Zhang, 2019). Lastly, the study presented in (S28) proposed an energy-efficient resource allocation method and claimed to achieve 37% lower energy consumption compared to other conventional schemes (Al-Shuwaili & Simeone, 2017).

### 3.2.2 Efficient Embedded AR/VR Processors

Apart from the computational complexity of AR/VR applications that are studied and presented in many studies, the hardware-specific optimization methods have been another focus of researchers to challenge the energy behavior of these technologies. Thus, the study presented in (S29) addresses the implementation of an embedded system using see-through glasses for AR (Diguët, Bergmann, & Morgère, 2015). According to the authors, the power consumption behavior of AR embedded systems is a significant issue since the regular graphical processors are consuming more energy than the embedded devices such as see-through glasses. Therefore, they have proposed a new processor architecture that considers power consumption to a great extent. Another hardware-specific energy consumption optimization study S30, proposed a marker-less camera pose estimation that identifies the view angle of an AR application (Hong et al., 2015). Mentioning that the marker-less camera pose estimation consumes more energy compared to that of marker-based techniques, the study suggested a logarithmic processing element design to reduce the total energy usage by 18%.

Similarly, the study in (S31), proposed a marker-less based object detection head mounted display with an integrated AR processor that deploys a power managing system by implementing a dynamic voltage and frequency methodology (Kim, Choi, & Yoo, 2015a). As a result, the proposed device showed a promising performance of one-day long real-time AR application by using only 381mW power on average. Likewise, authors in (S32) addressed the real-time marker-less AR processor for HMDs (Kim et al., 2015b). They instead have used another technique for lowering energy consumption by using some machine learning approaches in order to decrease the unnecessary external memory accesses that lead to higher energy consumption of the processor.

In another approach, the study presented in (S33) addressed the rendering technique of mobile ray tracing for VR applications (Lee, Hwang, Shin, Yoo, & Ryu, 2017). Ray tracing is an image creation technique from 3D environment with the help of tracing the path of light in the pixels of an image (Glassner, 1989). Conducting an experiment to evaluate their approach, the authors have demonstrated a 20% improvement in energy efficiency. Furthermore, another study focused on the hardware side of the augmented reality is the study presented in (S34). This study used a cluster of Bluetooth Low Energy (BLE) devices as an infrastructure for Mobile AR (Shao, Islam, & Nirjon, 2018). By evaluating the energy consumption of their proposed method, the authors demonstrated the efficiency of their technique compared to other common AR systems. Finally, the recent study in (S35) presents a mathematical model for energy usage of AR applications that uses a dynamic voltage and frequency scaling technique in order to minimize the power consumption of the AR processors (Song, Kim, & Chung, 2019). The authors found a power consumption reduction of up to 80%.

### 3.2.3 Display Based Energy Saving Efforts

We have been investigated and explained the efforts towards reducing the energy consumption by computation outsourcing and increasing the efficiency of Embedded Processors. However, another significant effort for reducing the power usage of Reality Technologies is by optimizing the display, specially the Head Mounted Displays. A relevant study about it is presented in (S36). That study used a dynamic brightness control in order to reduce the unnecessary light of the screen and achieved a reduction in energy consumption of the display by 25% without losing the quality of the visuals (Yan, Song, Lin, & Xu, 2018). Likewise, the study presented in (S37) used the same technique of dimming the screen lights dynamically and claimed to achieve much higher energy reduction of up to 80% for the display power and 50% for the system power (Wee, Cuervo, & Balan, 2018).

In general, different display devices have been used for various applications of Reality Technologies, each of which has its own constraints and advantages. In this sense, the recent study presented in (S38) carried out a comparative study on available display devices for the purpose of military (Tiwari, Verma, Chand, Shravan Kumar, & Karar, 2019). These devices should be of characteristics that can survive and operate

in stringent environments. That study compared two different displays being the cathode ray tube (CRT) and Flat Panel Displays (FPD). The authors demonstrated that the power consumption of FPD displays have the lowest energy consumption compared to other types of displays. Another type of display that have been used increasingly in VR, AR, and MR applications is the liquid crystal on silicon (LCoS) microdisplay that has a high power consumption rate. In this case, the study in (S39) proposed an approach of a timing controller architecture that lowers the energy usage of LCoS displays (Eo, Lee, Kim, & Ko, 2017).

### 3.2.4 Low Power Tracking User's Eye

Tracking user's eye is one of the significant parts of any virtual reality system that improves the immersion experience of the user. Current methods for this task are based on videos taken from cameras that scan the eyes of the user, but this method is extensively resourced and energy demanding. In this review, there were two studies towards the reduction of energy consumption of this task. The study in (S40) developed a photo-sensor technique that reduces energy consumption considerably (Zemblys & Komogortsev, 2018). While, the required energy of eye-tracking has been lowered significantly in the study (S41) by reusing the light emitted from the VR screen and some cheap photodiodes (Li, Liu, & Zhou, 2017).

### 3.2.5 Dynamic Frame Rate Control

In another perspective, it is claimed that the graphic-intensive AR/VR applications have a high power consumption due to the continues capturing real-world images and rendering virtual objects into the scene. The existing methods continually process the physical objects, although the rendered virtual objects are unique for a particular real scene. Hence, unnecessary frames are produced continuously. On the other hand, lowering the frame rate can affect the graphical quality of the virtual objects. In this review, two studies attempted to lower the frame rate while maintaining the visual quality of the virtual scene.

The study presented in (S42) proposed an online algorithm that adapts the frame rate dynamically while maintaining the best possible image quality (Yen, Chen, Hsiu, & Kuo, 2018). As a result, it was reported a reduction in energy consumption of almost 39% compared to other systems. Similarly, the study in (S43), analyzed the energy consumption of Head Mounted AR devices based on their frame rate and provided an approach towards reducing the power usage (Choi, Park, & Ko, 2017). To do so, the authors proposed a method that analyzes the object movements and controls the frame rates correspondingly, which can contribute to improved sustainability of head mounted devices by extending their lifetime.

### ***3.3 RQ3: To What Extent the Use Of Reality Technologies Is Eco-Friendly According to the Literature?***

Reality Technologies are normally carrying out high computational tasks and hence require a lot of energy consumption, as mentioned before. In this sense, the development of reality technology applications on mobile and wearable devices raised the concern of the efficiency of energy consumption of these applications. As the more energy consumed by these devices, more power is required to recharge them and hence less sustainability and eco-friendliness of such technologies. In this scenario, researchers are very much concern about the efficiency of various applications.

Therefore, to answer this research question we focused on the studies that address the battery consumption of reality technology applications. Six primary studies, that specifically investigated this topic, were found. The study presented in (S44) investigated the power consumption of a 360 degree VR video streaming applications on head mounted display (Jiang, Swaminathan, & Wei, 2017). Their authors developed a VR streaming system and evaluated it against the power consumption. They found that VR streaming overhead accounts for 28.5% of the whole energy usage on Head Mounted Displays, and 18.4% accounts for transmission of extra video bytes, 3.6% used for decoding the VR, and 6.5% for the computation of VR visualization. In another attempt towards resource usage analysis of AR, study proposed in (S45) built an android based AR application that displays a particular bank branch information and merchant along with available sales promotions around the user's location (Karaman, Erisik, Incel, & Alptekin, 2016). To do so, another android application that determines the power consumption of android applications based on their CPU usage, display usage, and sensors such as, GPS, gyroscope, and accelerometer, was used. According to the authors, that method results in 35% improvement effect on power consumption.

One of the requirements of VR and AR is the task of recognizing the 3D environment in real-time, which is a very high computational issue to tackle. This task often known as simultaneous localization and mapping (SLAM) was the focus of the study presented in (S46). That study proposed architecture for developing this service and evaluated the energy required for this system (Saeedi et al., 2018). Such an evaluation used power-performance measures by keeping the same amount of energy the decrease or increase of performance. As a result, it was found that such a method had an average speedup of 20% in the performance. Furthermore, following the fact that Reality technologies are one of the main usages of the new 5G network, the study presented in (S47), investigated the AR/VR application power consumption. While, a methodology known as service effective energy optimization was proposed for AR/VR wireless transmission in 5G network (Ge, Pan, Li, Mao, & Tu, 2017).

Other studies investigating the power consumption of Reality Technology applications are presented in (S48) and (S49) (Shea et al., 2017; Chen, Dai, Meng, Chen, & Li, 2018). Authors in (S48), investigated the energy consumption of a famous augmented reality game called Pokemon Go. They have found that Pokemon Go utilizes an amount of 3544 mW of power consumption, which comprises 67% of

the device energy consumption. They demonstrated that 49% of this energy has been used for the display functionality, and the same amount of 49% is used for the application processes. Finally, the study presented in (S49) characterized the energy consumption of mobile augmented reality applications. That study pointed out two main challenge of MAR applications, the power consumption, and heat dissipation. The authors demonstrated that MAR applications consume more power compared to other non-MAR applications and the major power consumption is due to the camera usage. In fact, the heat generated by the repeated usage of camera is dissipated to other layers of the device and environment.

## 4 Conclusion and Future Work

In this study, a systematic literature review about the sustainability of AR, VR, and MR was conducted. After reviewing the literature, one can find that there are no specific papers about the sustainability and in other words greenability of these technologies. However, one can identify a number of relevant studies regarding the energy consumption and energy efficiency of Reality Technologies. In consequence, we formulated our research based on the fact that the energy consumption of these technologies could be a great challenge towards their sustainability and greenability. That means higher energy consumption leads to sooner depletion of battery resources, lowering their lifetime, and hence, affecting the greenability of the technology.

Consequently, to answer our research questions the relevant studies were classified based on the approach they have taken towards the abovementioned categories. Moreover, overall insights about various activities in sustainability of these technologies were identified. Regarding our first research question being, the reported benefits in terms of sustainability on the use of Reality Technologies, there are 15 studies that focus on the applications of reality technologies towards sustainability of other fields, such as visualization of energy consumption information for users, energy managers, engineers and decision makers in general, as well as, design activities. Additionally, there are studies about promotion of energy-efficient behaviors to the individuals by providing feedback and awareness on the energy consumption of devices around them and educating them towards taking energy-efficient decisions. Finally, the simulation of pollution producer activities has been reported and described its influence on sustainability.

On the other hand, regarding our second research question concerning the reported attempts towards making Reality Technologies eco-effective, there are 28 studies that concentrate on energy consumption and efficiency of devices providing reality technologies. There, six activities have been found. Firstly, the offloading of the computational intensive tasks to the cloud was identified along with challenges regarding lowering the energy consumption of data transmissions. Mobile edge network communication has been discussed to investigate the transmission energy efficiency with these networks. Furthermore, the development of energy-efficient Embedded Processors for AR and VR applications have been identified as an ongoing research

field. Similarly, optimizing the hardware part of these technologies is focused on the energy efficiency of AR and VR displays, such as a head mounted display. With a different perspective one can find the dynamic frame rate control and user's eye tracking that if taken place efficiently can contribute to the energy consumption into a great extent. Moreover, there are only six studies related to the third research question about the extent to which the use of Reality Technologies is eco-friendly.

To sum up, the applications of these innovative technologies support the development of other energy-efficient activities, such as building energy management, energy-oriented design practices, industrial and engineering energy monitoring, energy-efficient behavior promotions, and simulations of pollution producer activities. Although, there are valuable contributions into the other fields towards sustainability, so far today, the term Greenability of AR, VR, and Mixed Reality technologies has been investigated as the extent to which an AR, VR, or Mixed Reality technologies consider the energy consumption during their operations and the techniques deployed in order to higher their energy efficiency and lifetime. In other words, the findings reveal that although there were valuable efforts towards improving the sustainability of these technologies, there is still a set of dimensions that are not considered such as the footprints they are living in environment and the impacts they are imposing on human beings. Hence, interesting future work can be the understanding of the long term impacts of devastating integration of these technologies into human life. Moreover, although the energy-efficient behaviors contribute to improving the environmental sustainability and reality technologies have shown a promising result in promoting such behaviors, there were very few number of studies about this topic. While, MR has not been the primary focus of any of the relevant studies, and given that applications are increasing, there is a need to develop studies focus on this technology. Lastly, compliance efforts with regards to well know standards in this field, such as United Nations Global Compact (UNGC), ISO 26000, UN Sustainable Development Goals (SDGs), and GRI Content Index, were not found in this review. Therefore, there is a clear research gap that should be addressed.

## Appendix

Key	Author	Title
S1	Patti et al. (2017)	Information modeling for virtual and augmented reality
S2	Natephra et al. (2017)	Integrating building information modeling and virtual reality development engines for building indoor lighting design

(continued)

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Key	Author	Title
S3	Kim et al. (2015b)	Health smart home services incorporating a MAR-based energy consumption awareness system
S4	Cho et al. (2019)	Energy management system based on augmented reality for human–computer interaction in a smart city
S5	Au et al. (2018)	Emerging simulation and VR for green innovations: a case study on promoting a zero-carbon emission platform in Hong Kong
S6	Pelliccia et al. (2016)	Energy visualization techniques for machine tools in virtual reality
S7	Nugraha Bahar et al. (2014)	CAD data workflow toward the thermal simulation and visualization in virtual reality
S8	Purmaissur et al. (2018)	Augmented reality computer-vision assisted disaggregated energy monitoring and IoT control platform
S9	Ho and Chui (2019)	Monitoring energy consumption of individual equipment in a workcell using augmented reality technology
S10	Bekaroo et al. (2018)	Enhancing awareness on green consumption of electronic devices: The application of augmented reality
S11	Amici et al. (2018)	Augmented reality applied to a wireless power measurement system of an industrial 4.0 advanced manufacturing line
S12	Mylonas et al. (2019)	An augmented reality prototype for supporting IoT-based educational activities for energy-efficient school buildings
S13	Chou et al. (2017)	Spatiotemporal analysis and visualization of power consumption data integrated with building information models for energy savings
S14	Ćwil and Bartnik (2019)	Physically extended virtual reality (PEVR) as a new concept in railway driver training
S15	Nacu et al. (2018)	Towards autonomous EV by using virtual reality and Prescan-Simulink simulation environments
S16	Shea et al. (2017)	Towards fully offloaded cloud-based AR: design, implementation, and experience
S17	Chen et al. (2018)	MARVEL: enabling mobile augmented reality with low energy and low latency
S18	Shi et al. (2015)	Offloading guidelines for augmented reality applications on wearable devices

(continued)



(continued)

Key	Author	Title
S19	Noreikis et al. (2017)	SeeNav: seamless and energy-efficient indoor navigation using augmented reality
S20	Lee et al. (2016)	Exploiting remote GPGPU in mobile devices
S21	Dolezal et al. (2016)	Performance evaluation of computation offloading from mobile device to the edge of mobile network
S22	Qvarfordt et al. (2018)	High-quality mobile XR: requirements and feasibility
S23	Chakareski (2019)	UAV-IoT for next-generation virtual reality
S24	Chatzieftheriou, Iosifidis, Koutsopoulos, and Leith (2018)	Towards resource-efficient wireless edge analytics for mobile augmented reality applications
S25	Meng et al. (2018)	Radio resource allocation scheme for drone-assisted AR applications
S26	Dang and Peng (2019)	Joint radio communication, caching, and computing design for mobile virtual reality delivery in fog radio access networks
S27	Liu and Zhang (2019)	Code-partitioning offloading schemes in mobile edge computing for augmented reality
S28	Al-Shuwaili and Simeone (2017)	Energy-efficient resource allocation for mobile edge computing-based augmented reality applications
S29	Diguet et al. (2015)	Dedicated object processor for mobile augmented reality—sailor assistance case study
S30	Hong et al. (2015)	A 27 mW reconfigurable marker-less logarithmic camera pose estimation engine for mobile augmented reality processor
S31	Kim et al. (2015a)	K-glass: real-time markerless augmented reality smart glasses platform
S32	Kim et al. (2015b)	A 1.22 TOPS and 1.52 mW/MHz augmented reality multicore processor with neural network NoC for HMD applications
S33	Lee et al. (2017)	Fast stereoscopic rendering on mobile ray-tracing GPU for virtual reality applications
S34	Shao et al. (2018)	MARBLE: Mobile Augmented Reality Using a Distributed BLE Beacon Infrastructure

(continued)

(continued)

Key	Author	Title
S35	Song et al. (2019)	Energy consumption minimization control for augmented reality applications based on multi-core smart devices
S36	Yan et al. (2018)	Exploring eye adaptation in head mounted display for energy-efficient smartphone virtual reality
S37	Wee et al. (2018)	FocusVR: effective 8 usable VR display power management
S38	Tiwari et al. (2019)	A comparative study on display sources for augmented reality-based technology in defense applications
S39	Eo et al. (2017)	High performance and low power timing controller design for LCoS microdisplay system
S40	Zemblys and Komogortsev (2018)	Developing Photo-sensor Oculography (PS-OG) system for virtual reality headsets
S41	Li et al. (2017)	Ultra-low power gaze tracking for virtual reality
S42	Yen et al. (2018)	Differentiated handling of physical scenes and virtual objects for mobile augmented reality
S43	Choi et al. (2017)	Analyzing head mounted AR device energy consumption on a frame rate perspective
S44	Jiang et al. (2017)	Power evaluation of 360 VR video streaming on head mounted display devices
S45	Karaman et al., (2016)	Resource usage analysis of a sensor-based mobile augmented reality application
S46	Saeedi et al. (2018)	Navigating the landscape for real-time localization and mapping for robotics and virtual and augmented reality
S47	Ge et al. (2017)	Multipath cooperative communications networks for augmented and virtual reality transmission
S48	Shea et al. (2017)	Location-based augmented reality with pervasive smartphone sensors: inside and beyond Pokemon Go!
S49	Chen et al. (2018)	Understanding the characteristics of mobile augmented reality applications

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# Organ Donation for Social Change: A Systematic Review



Amani Alsalem, Park Thaichon and Scott Weaven

**Abstract** This chapter presents a critical review of the existing organ donation literature. The objective of this chapter is to identify the main gaps in the current body of literature on the organ donation context and the marketing discipline. This chapter initially discusses social marketing within the context of organ donation for social change. Following on, this chapter provides a systematic quantitative literature review of the existing organ donation studies from the period of 1985–2019. Then, this chapter details and discusses the review method. The literature review findings include the geographical distribution of 262 peer-reviewed organ donation studies around the world; the frequency of published articles over the period 1985–2019; the disciplinary scope of these studies; the sample characteristics; and the key theories and models used to inform organ donation studies. Finally, this chapter concludes with a discussion of the main limitations of existing organ donation studies.

**Keyword** Organ donation · Donation · Social change · Behaviour change · Systematic review

## 1 Social Marketing and Social Change

Cheng, Kotler, and Lee (2010, p. 2) define social marketing as ‘a process that applies marketing principles and techniques to create, communicate and deliver value in order to influence target audience behaviours that benefit society’. Social marketing is a social change approach largely used by governments and not-for-profit institutions as a mechanism to effect change within the social system (Pykett, Jones, Welsh, & Whitehead, 2014). The primary goal of social marketing is behavioural change rather

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_6](https://doi.org/10.1007/978-3-030-35415-2_6)

than influencing beliefs or raising public awareness. This has been deemed as social marketing's ultimate bottom line (Goldberg, Fishbein, & Middlestadt, 2018). Social marketing has evolved over the last 30 years as a major field within the marketing discipline designed to address an array of social issues and health problems across a variety of different circumstances and situations, namely (but not limited to) blood donation (Healy & Murphy, 2017); breastfeeding (Pérez-Escamilla & Hall Moran, 2016); smoking behaviour (Pechmann, 2018); nutrition intake (Blitstein et al., 2016); purchase of organic food (Smith & Paladino, 2010); reducing arson (Peattie, Peattie, & Thomas, 2012); teen pregnancy (Dippel, Hanson, McMahon, Griese, & Kenyon, 2017); child abuse (Hyman, Shabbir, Chari, & Oikonomou, 2014); binge drinking (Zhang et al., 2018) and marijuana use (Spence, 2018).

Social marketing is not a single discipline but rather knowledge from fields such as psychology, sociology, anthropology, and communications that influence behaviour when it is used as a marketing tool (French & Gordon, 2015). Therefore, social marketing as a paradigm can be used to address the issue of organ donation and the factors that may influence a person to become a posthumous organ donor, because it has an individual focus (Lee & Kotler, 2011). Posthumous organ donation is a deep social issue where behaviour change strategies must go beyond targeting the individual to also considering the culture and social system in which the behaviours occur (Pykett et al., 2014). The development of understanding in individuals with a pro-organ donation and anti-organ donation issues is critical to extend the value of social marketing in relation to behavioural change (Hansen, Eisner, Pfaller, & Schicktanz, 2018; Pfaller, Hansen, Adloff, & Schicktanz, 2018). It is important for researchers to get a better understanding of an individual's attitude toward donation, intention to sign a donor card and to discuss donation wishes with family in order to gain formative research insights that can be used to design individually focused social marketing campaigns, and ultimately increase participation in organ donation. In the marketing literature, perceived barriers are believed to have a greater impact on the intention to donate organs, more than perceived benefits (Williamson, Reynolds-Tylus, Quick, & Shuck, 2017). Therefore, an understanding of factors that motivate or inhibit individuals from donating organs is critical to designing effective social marketing interventions that can increase the number of actual organ donors, and ultimately reduce the number of patients on transplant waiting lists (Velo, Rodrigues, Resende, & Rezende, 2017).

Organ donation professionals have successfully applied the principles of social marketing to organ donation campaigns. These campaigns were informed by the Organ Donation Model (ODM) (Morgan & Miller, 2002a) and other models of organ donation willingness (e.g. Horton & Horton, 1991; Kopfman & Smith, 1996) which provide insight into how the individual makes the decision to sign an organ donor card and talk to family members about donation. These models have also helped in the segmentation of specific audiences (i.e., undecided donors), overcome the barriers to this segment's engaging in the behaviour and the placement of messages for campaigns. For example, in North Carolina, the ODM was used to develop an organ donation campaign targeting African Americans. The messages focused on many barriers to donation specific to the African American community, such as distrust of



the health care system and other specific knowledge items such as misunderstanding of brain death. This campaign was ultimately successful in increasing the rate of signing donor cards among African Americans (Morgan & Gibbs, 2006). Similar approaches have been successfully used to target Latino populations (Alvaro, Jones, Robles, & Siegel, 2006), American Indians (Fahrenwald & Stabnow, 2005), as well as high school and college populations (Feeley, 2007). Therefore, integrating deep culturally-based insight-oriented research is essential to generate insightful, relevant, appropriate and attainable social change solutions for the target audiences (Brennan, Binney, Parker, Aleti, & Nguyen, 2014).

## **2 A Systematic Quantitative Review of Organ Donation Research 1985–2019**

### ***2.1 Review Methods***

Reviewing past research is a fundamental step to provide an overview of the progress achieved in any field of study, as well as to evaluate the academic growth and maturity of a particular discipline (Truong, 2014). Additionally, assessing previous research seems to be one of the most effective ways to reveal the theoretical awareness, methodological sophistication, and the direction of academic research in the field of study (Hesse-Biber, 2010; Williams & Plouffe, 2007). Furthermore, conducting systematic analyses of the state of knowledge development can also identify gaps and extend prior studies (Creswell & Creswell, 2017; Truong, 2014). Williams and Plouffe (2007) state that the process of a systematic review is often time-consuming because it involves a collection and analysis of a substantial amount of data. However, it is a preferred method for informing the direction for future research with respect to topical, theoretical, and methodological trends (Truong, 2014). Therefore, the current chapter attempts to fill the gap in knowledge by analysing the content of the existing organ donation studies. This systematic review of published research was conducted to quantify and synthesise the research literature on organ donation. This review also aimed to identify all the existing relevant studies that assessed predictors of attitudes and intentions towards posthumous organ donation, as well as to set an agenda for future research on this topic (i.e. to fill knowledge gaps).

A systematic quantitative literature review was conducted using a methodology that has been extensively used in social sciences research. This review was performed according to the requirement of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and reporting criteria (Moher, Liberati, Tetzlaff, & Altman, 2009). The PRISMA approach demand that all steps in the review are documented, presented and made transparent. By systematically searching, selecting and categorising the relevant literature, these types of reviews provide reproducible, reliable assessments of the status of a field of research, thus,

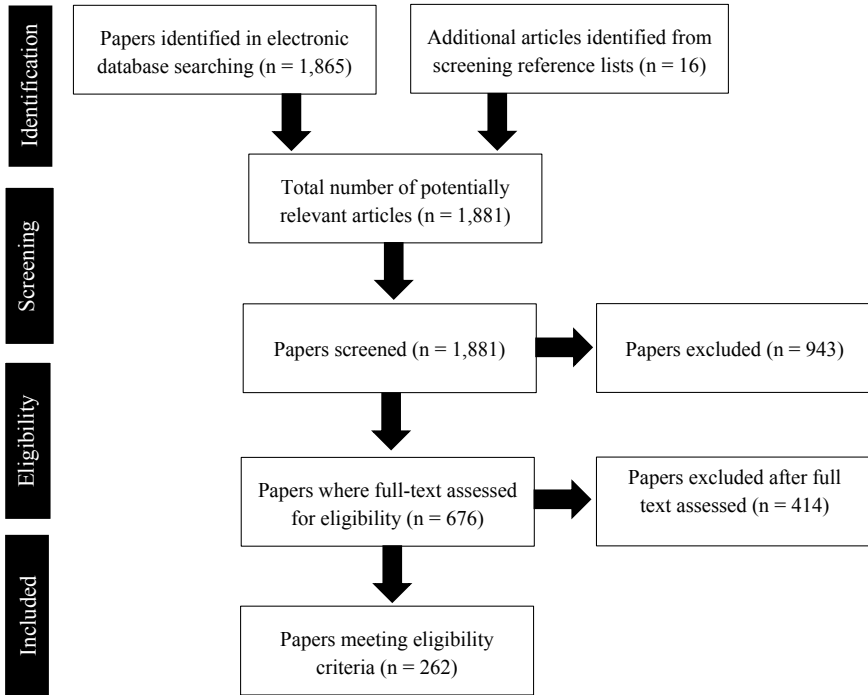
minimising potential biases that may occur in some reviews (Pickering, Grignon, Steven, Guitart, & Byrne, 2015).

In this chapter, the search processes, study inclusion and exclusion criteria, procedures for data synthesis and review method are provided. In order to be included in the current systematic review, eligible studies had to meet the following inclusion criteria: (1) only focus on organ donation after death; (2) utilise quantitative study design (i.e., survey, experiment); (3) published in an academic peer-reviewed journal; (4) full text articles; (5) published in the English language; (6) measure any of the following core variables: respondent's attitude toward posthumous organ donation; self-reported willingness or intention to donate; and donor behaviour (e. g., signing donor cards); (7) participants were members of the community (e.g., students or households); and (8) used multivariate statistical analyses. On the other hand, the exclusion criteria for studies were as follows: (1) focus on organ donation throughout life (i.e., living donation); (2) utilise a qualitative or mixed methods research design; (3) examine transplant recipients' views about organ donation; (4) focus on the role of health care workers with respect to the donation decision; (5) investigate the decision to donate made by next-of-kin of deceased; (6) published in a language other than English; and (7) conference papers.

A comprehensive search of original research studies was conducted using the following scholarly electronic databases: Scopus, Science Direct, PsycINFO, ERIC, JSTOR, ProQuest, ISI Web of Knowledge, BioMed, Sage, Google Scholar as well as Google. The search strategy consisted of key terms and text words related to organ donation upon death including: 'posthumous organ donation', 'cadaveric organ donation', 'deceased organ donation', 'organ donation after death'. Other donation terms were also included such as, 'organ donation', 'organ', 'donation', 'donate', 'tissue', 'donor', 'transplant', 'transplantation' and 'gift of life'. The search strategy also included the following keywords: 'quantitative', 'survey' and 'questionnaire'. Furthermore, a combination of terms used for the searches was: 'attitude', 'intention', 'behaviour', 'signing', 'donor cards', 'registration', 'consent', 'family communication' and 'family discussion'.

The initial online search identified 1865 potentially relevant studies over a 35-year range (year of publication was not limited in the literature search). Following on, the reference lists of the relevant articles were also checked to find additional papers, until no further study was identified. An additional 16 papers were identified from an ancestry search and screening the reference lists of the retrieved articles. Therefore, a total of 1881 articles were retrieved and reviewed, to identify eligible studies and to ensure that only studies related to the topic are included. At first, the author screened all the obtained studies' titles, keywords and abstracts to ensure that relevant articles were not omitted. Potentially relevant studies were not selected unless the title or abstract focused on organ donation. Where this was not clear, the full text of each paper was screened for review inclusion according to the eligibility criteria described above. A summary of the search strategy is presented in Fig. 1.

After this in-depth evaluation for each paper, 1619 studies were excluded mainly because they were duplicate articles; did not generate empirical data or were secondary reports; used a qualitative or mixed-method approaches; studied determinants



**Fig. 1** Result of searches of electronic databases using the PRISMA statement for the systematic review. *Source* Author’s own figure

of blood donation; and examined predictors of living donation. Other articles were also excluded because they were found in a foreign language without providing an English version, which will require translation to determine eligibility, and this was beyond the scope of this review. In the end, a total of 262 original, peer-reviewed research papers met all the inclusion criteria specified for this systematic review.

## 2.2 Review Results

This chapter provides a systematic quantitative literature review of 262 original organ donation studies. This chapter examines the development of organ donation research from 1985 to 2019. From each research paper, the following information was recorded including the authors’ names; the year of publication; the geographical location of the study (i.e., country); methods used for collecting the data (e.g., cross-sectional survey); the characteristics of the sample; and the theoretical framework. A comprehensive detail about the findings in these studies will be discussed in this section. The results are presented in five main sections: the geographic scope, the

number of organ donation articles published from 1985 to 2019, the disciplinary scope, the sample characteristics, the theories and models most widely used in organ donation studies.

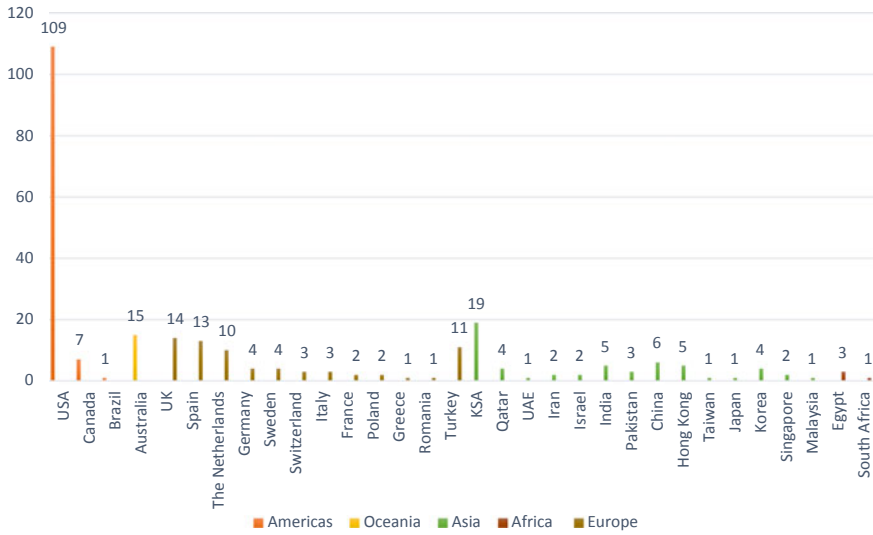
### 2.2.1 Geographic Scope

With respect to the geographic location of organ donation studies, the location of the authors' institutions was used, then the research papers were grouped by continents. The conventional division of six continents was used, which is the Americas (North America, Canada and South America), Asia (including the Middle East), Europe, Africa, Oceania (including all Australian territories) and Antarctica. It is worth mentioning that, no publications were found from Antarctica. Therefore, it was excluded from the current analysis. Organ donation research has attracted diverse scholarly interests around the world. However, the United States of America (USA) based researchers and institutions seem to contribute significantly to shaping the body of knowledge in the organ donation context. This quantitative systematic literature review has demonstrated that most of the studies to date have been predominantly conducted in the Americas (45%), specifically in the USA ( $n = 109$ ), with a few papers from Canada ( $n = 7$ ) and only one paper from Brazil.

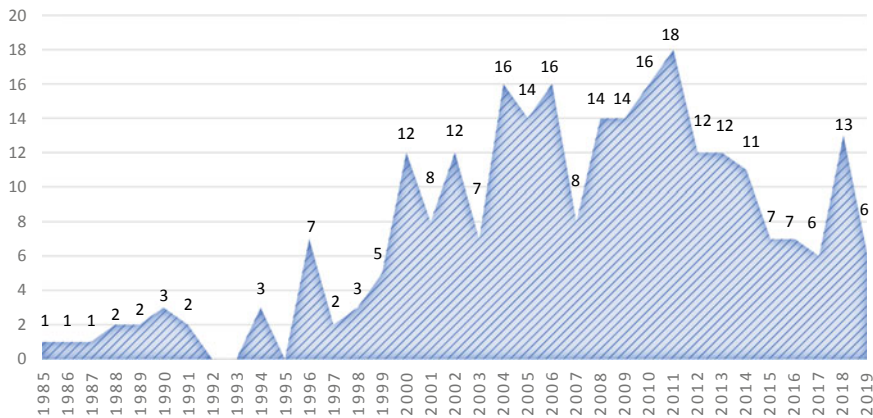
Furthermore, a reasonable number of studies were conducted in Europe (26%). For instance, 14 articles originated from the United Kingdom, 14 from Spain, 11 from Turkey, 10 from the Netherlands, 4 from Germany, 4 from Sweden, 3 from Switzerland, 3 from Italy, 2 from France, 2 from Poland, 1 from Greece, 1 from Romania and 1 from Austria. In addition, research-based in Asia also dominates the literature (22%), for example, 19 articles originated from the Kingdom of Saudi Arabia (KSA), followed by China ( $n = 6$ ), Hong Kong ( $n = 5$ ), India ( $n = 5$ ), Korea ( $n = 5$ ), Qatar ( $n = 4$ ), Pakistan ( $n = 3$ ), Singapore ( $n = 2$ ), Iran ( $n = 2$ ), Israel ( $n = 2$ ), and the remainder from the United Arab Emirates (UAE) ( $n = 1$ ), Malaysia ( $n = 1$ ), Japan ( $n = 1$ ) and Taiwan ( $n = 1$ ). As shown in Fig. 2, 15 studies (6%) originated from Australia. Moreover, limited research has been undertaken in Africa, such as Egypt (3 articles) and only one study in South Africa. Additionally, two articles described a collaborative study involving the United States, Japan, and Korea. Another collaborative study was conducted between KSA and Austria.

### 2.2.2 Frequency of Published Articles Over the Period 1985 to 2019

Organ donation research on an individual's attitude, willingness and intention to donate have burgeoned in the last decade. In this review, 262 studies were examined over the 35-year review period. The time frame for the current analysis ranged from 1985 to 2019. In Fig. 3, the total number of published papers annually are shown. This systematic analytical review of the literature shows that there is a dearth of research on the topic from 1985 to 1995. In total, fifteen academic papers on the topic were published in that 10-year review period. For example, there was only



**Fig. 2** Distribution of 262 peer-reviewed organ donation studies around the world. *Source* Author’s own figure



**Fig. 3** The annual number of organ donation papers from 1985 to 2019. *Source* Author’s own figure

one paper published in 1985 that examine people’s attitudes and willingness toward donating organs. Also, one article was published in 1986 and another paper in 1987. Furthermore, there are no publications found in 1992, 1993 and 1995. Interestingly, in the 10-year review period (from 1985 to 1995), research has been geographically concentrated in North America.

Research publications from 1996 to 1999 showed a steady rise for this 5-year review period, but at a more gradual pace. Internationally, the rapid increase in the

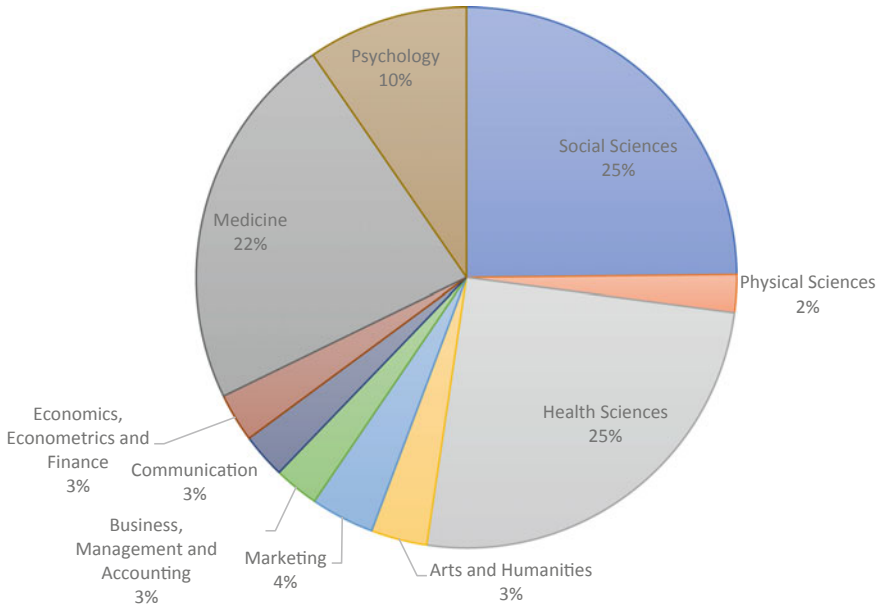
publications started after 2000, suggesting that organ donation is fertile ground to sow in future research. For example, 12 papers were published in 2000, and 14 articles were published in 2005. This systematic literature review indicates that organ donation has captured increasing research attention, as evidenced by the increasing number of published articles. In total, 82 papers were published between 2006 and 2010, while over 76 publications were identified for the period 2011 to 2015. Furthermore, from 2016 to 2019, there was considerable fluctuation in the number of papers published in each year of the period. Publications from the USA showed a steady increasing trend from 2000 to 2019. From 2000, journal articles from other top publishing countries such as the Kingdom of Saudi Arabia, Australia, the United Kingdom, Spain, the Netherlands, Turkey, Germany and China also showed an increasing trend and a doubling of publications in the 20-year review period.

### 2.2.3 Disciplinary Scope

Organ donation has attracted scholarly research interest from a wide range of disciplines, such as social sciences, physical sciences, health sciences, medicine, psychology, communication, arts and humanities, marketing and advertising, business, management, economics, econometrics and finance. Researchers published papers in 128 different journals spanning a diverse cross-disciplinary interest in the issue. The trans-disciplinary interest in this topic explains why different studies used different field methods—reflecting disciplinary predilections and biases. However, organ donation studies related to disciplines of health sciences 25% ( $n = 113$ ), social sciences 25% ( $n = 111$ ), and medicine 22% ( $n = 101$ ), have dominated the literature. The next most common discipline was psychology 10% ( $n = 43$ ). In addition, 4% ( $n = 17$ ) of the papers were published in marketing and advertising, with 3% ( $n = 15$ ) of the papers published in arts and humanities, and 3% ( $n = 13$ ) published in economics, econometrics and finance. This was followed by communication, with 12 papers in total (3%), and 12 articles (3%) published in business, management and accounting. As presented in Fig. 4, only 2% of the papers ( $n = 10$ ) were published in the physical sciences. The current systematic quantitative literature review shows that most of the international literature has been conducted in the health sector, and thus more articles have been published in health-related journals than in marketing-related journals.

### 2.2.4 Sample Characteristics

The results across 262 articles suggest that most of the current studies were conducted in university settings (located mostly in the USA). For example, 99 studies (38%) used convenience samples of psychology, nursing, and medical student populations. There are 47 studies (18%) conducted in school settings, among high school student populations (e.g. Cárdenas, Thornton, Wong, Spigner, & Allen, 2010; Dijker, Nelissen, & Stijnen, 2013). These participants were 14–18 years of age. Furthermore, 39 studies (15%) used convenience samples but did not specify the research setting (e.g.



**Fig. 4** Discipline and journal distribution of the 262 research papers on organ donation assessed in this study. *Source* Author’s own figure

Saleem et al., 2009; Wu, 2009). Additionally, samples drawn from members of the general public or local communities were described in 13 studies (5%) (e.g. Flower & Balamurugan, 2013; Siminoff, Burant, & Youngner, 2004). As shown in Table 1,

**Table 1** Sample characteristics in organ donation research

Sample characteristics	No. studies
Psychology, nursing, and medical university students	99 (38%)
High school students	47 (18%)
Convenience sample	38 (15%)
Physicians, nurses, clinical coordinators, hospital administrators	18 (7%)
African Americans	16 (6%)
Members of the general public	13 (5%)
Random sample	10 (4%)
Latin Americans	10 (4%)
Asian Americans	4 (1%)
Arab Americans	4 (1%)
Visitors of the Department of Motor Vehicles	3 (1%)

*Source* Author’s own table

there are ten studies (4%) to date that have used random population samples (e.g. O'Carroll, Ferguson, Hayes, & Shepherd, 2012; Wenger & Szucs, 2011).

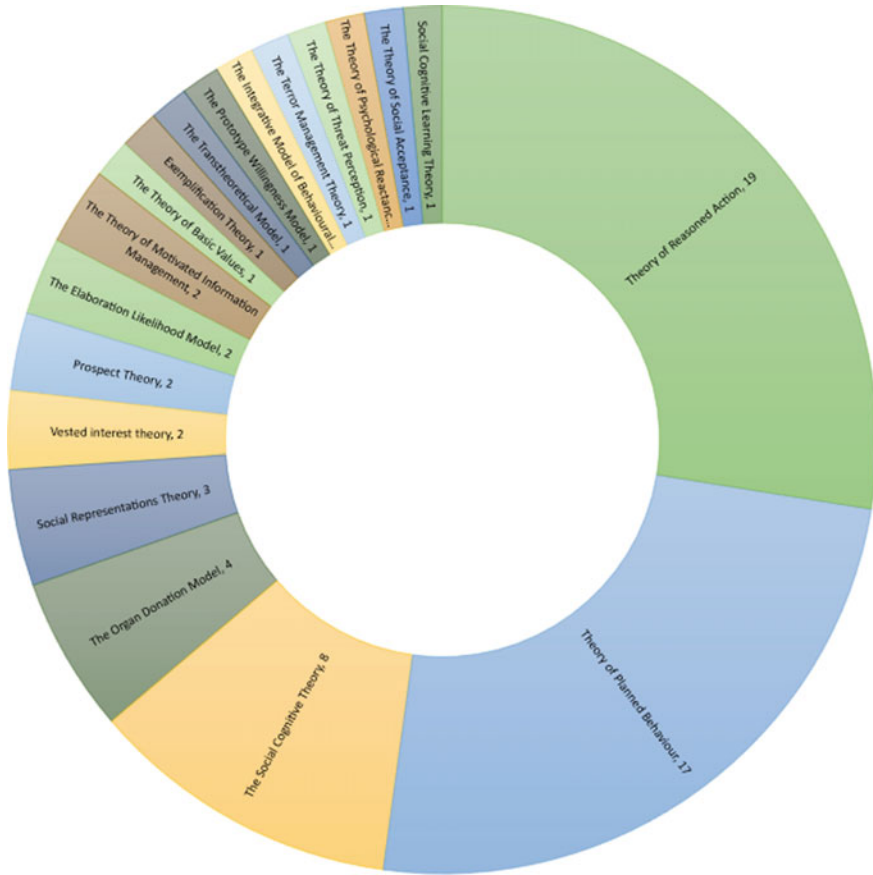
This review also identified 18 studies (7%) that surveyed physicians, nurses, clinical coordinators and hospital administrators (e.g. Boey, 2002; Collins, 2005). Interestingly, people who work in the medical field such as doctors, nurses or physicians (e.g. Al Sebayer & Khalaf, 2004; Fitzgerald, Fitzgerald, Shaheen, & DuBois, 2002), as well as patients who visit hospitals (e.g. Agrawal, Binsaleem, Al-Homrani, Al-Juhayim, & Al-Harbi, 2017; Mohamed & Guella, 2013) were found to be the main sample selection for most of the Saudi Arabian studies. In addition, several studies reported data on particular ethnic groups or minority populations. For example, the current review identified 16 studies (6%) that surveyed African American samples (e.g. Flemming et al., 2018; Resnicow et al., 2011). Ten articles (4%) were conducted among Latin Americans populations (e.g. Ríos et al., 2017a, 2017b; Salim et al., 2011). Asian American samples were described in four studies (e.g. Lam & McCullough, 2000; Trompeta et al., 2012). Also, four studies were conducted among Arab Americans (e.g. Padela, Rasheed, Warren, Choi, & Mathur, 2011; Padela & Zaganjor, 2014). Furthermore, three studies targeted adults visiting the Department of Motor Vehicles (i.e., a state-level government agency that administers and provides driver licensing and an organ donor card) (e.g. Harrison, Morgan, & Di Corcia, 2008; Rodrigue et al., 2004).

## 2.2.5 Theories and Models Informing Organ Donation Studies

Theory is a “body of logically interconnected propositions which provides an interpretative basis for understanding phenomena” (Dann, Nash, & Pearce, 1988, p. 4). In this chapter, 262 articles were reviewed, and it was found that most organ donation studies were not theoretically informed. For example, more than 76% ( $n = 199$ ) articles did not test a theory or provide any theory-related information. Only 63 studies (24%) explicitly reported using a theoretical framework to guide their research. Even though some researchers have used theories or models to guide their research, they did not explicitly report the theories or models used in detail, as well, the purpose of using them was not always clearly stated. While some articles identified in this study were underpinned by one single theory or model, others reported multiple theories or models. For example, the Theory of Reasoned Action and the Integrative Model of Behavioural Prediction were used by Wang (2012). Furthermore, the Theory of Planned Behaviour and the Vested Interest Theory were tested by Siegel, Alvaro, Lac, Crano, and Dominick (2008).

It was found that Theory of Reasoned Action (TRA) ( $n = 19$ , 28%) was the most frequently used in organ donation studies (e.g., Jeong & Park, 2015; O'Carroll, Foster, McGeechan, Sandford, & Ferguson, 2011). As shown in Fig. 5, the Theory of Planned Behaviour (TPB) was also tested in 17 studies (25%) (e.g., Pauli, Basso, & Ruffatto, 2017; Singh, Agarwal, Al-Thani, Al Maslamani, & El-Menyar, 2018). There were eight studies (12%) to date that applied the Social Cognitive Theory (SCT) (e.g., Quick, Morgan, LaVoie, & Bosch, 2014; Reubsaet et al., 2005; Wu, Tang, & Yogo,

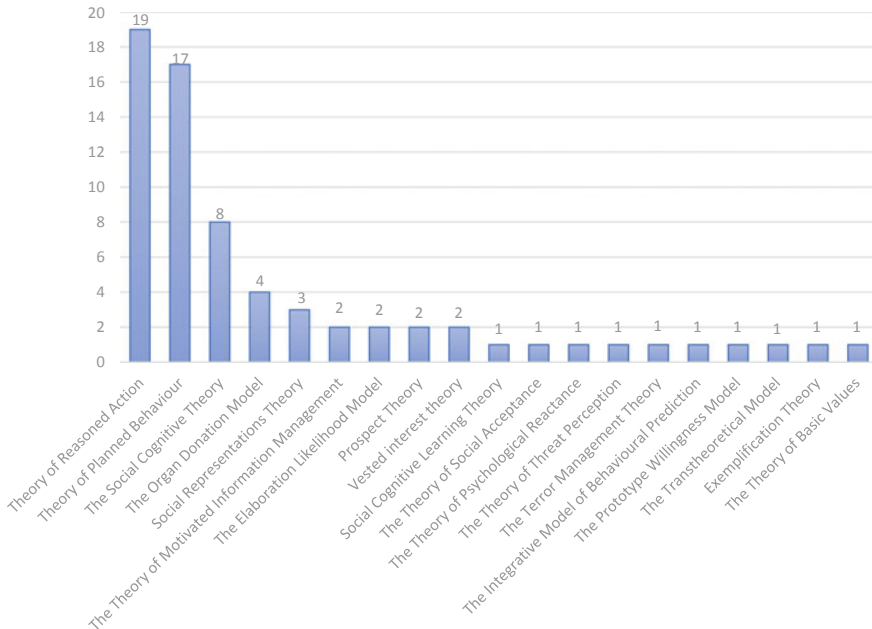




**Fig. 5** Key theories and models used in organ donation studies. *Source* Author’s own figure

2013), as well as four articles used the Organ Donation Model (ODM) (e.g., Morgan, 2004; Smith, Kopfman, Lindsey, Yoo, & Morrison, 2004). Furthermore, there were three studies which used the Social Representations Theory (e.g., Harrison et al., 2011; Morgan, King, Smith, & Ivic, 2010), and two articles applied the Elaboration Likelihood Model (ELM) (e.g., Bae, 2008; Skumanich & Kintsfather, 1996). In addition, the Theory of Motivated Information Management (TMIM) was used in two articles (Afifi et al., 2006; Morse et al., 2009). Other studies conducted by Cohen (2010) and Sun (2014) applied the Prospect Theory in their research. Also, the Vested interest theory was used by Siegel et al. (2008) and Anker, Feeley, and Kim (2010).

Additionally, a number of other theories and models were also used in organ donation studies. However, these theories or models have been tested only once in a single organ donation research, such as the Social Cognitive Learning Theory (Robbins, 1990); the Theory of Social Acceptance (Dahl, Barber, & Peltier, 2019); the Theory



**Fig. 6** Theories and models most widely used in organ donation studies. *Source* Author’s own figure

of Psychological Reactance (Massi Lindsey, 2005); the Theory of Threat Perception and the Theory of Basic Values (Ryckman, Borne, Thornton, & Gold, 2005); the Exemplification Theory (Chien & Chang, 2015); the Terror Management Theory (TMT) (Wong, 2012); the Integrative Model of Behavioural Prediction (Wang, 2012); the Prototype Willingness Model (PWM) (Hyde & White, 2014) and the Transtheoretical Model (TTM) (Flemming et al., 2018). Figure 6 shows the theories and models that were used in the examined articles.

### 3 Limitations of the Current Organ Donation Studies and Future Research Directions

After reviewing the existing literature across a broad scope of domains, core gaps in the research are identified and, thus, areas for exploration in this chapter are highlighted. While there is a growing recognition that investigating intentions to sign donor cards or donation letters is relevant (Morgan, Stephenson, Harrison, Afifi, & Long, 2008) organ donation research has generally studied people’s willingness or intentions to donate organs in general, rather than their intentions to sign donor cards. Indeed, earlier research by Morgan, Miller, and Arasaratnam (2002b), found that signing a donor plays a critical role in the quest to increase the number of

actual donors and as a result, increasing the number of available organs for transplant. Accordingly, it is important for marketers to understand the factors involved in decision-making about signing donor cards in order to design an effective persuasive campaign promoting organ donation. Additionally, given the importance of family discussions, it is also critical to explore the determinants of willingness to discuss one's own donation wishes. The current systematic review shows that the willingness or intention to discuss the donation wishes has received very little attention in the existing organ donation literature (Hyde & White, 2010; Park, Smith, & Yun, 2009; Rocheleau, 2013).

Moreover, it was found that researchers mostly examine organ donation and transplantation from the point of view in the medical and ethical realm (AlShareef & Smith, 2018; Soubhanneyaz, Kaki, & Noorelahi, 2015) or a knowledge-awareness perspective (Almufleh et al., 2018; Sayedalamin et al., 2017). Therefore, little attention is given to understanding individual perspectives on organ donation. Also, little research has investigated factors motivating or inhibiting individuals from donating organs posthumously from a consumer's perspective (Chan, 2018; Ginossar et al., 2017; Morgan, Kenten, Deedat, & Team, 2013). As discussed previously, most of the existing articles published in the USA, and this may limit the generalisability of the findings to other countries with different health systems and cultural contexts. Consequently, there is an urgent need to contextualise understanding of the influence of organ donation attitudes on behavioural intention to donate organs among different populations as a means to bridge the gap between organ supply and demand for transplantation in different countries. This is especially vital as each country has a unique aspect in culture, religion and local belief when compared to other contexts. Besides, Song, Drennan, and Andrews (2012) mentioned that it is essential to explore the regional differences in a group of consumers toward acceptance of a new concept, technology or thinking.

The existing studies identify bias in the sampling techniques where the selection process focused on medical students, doctors, nurses, patients and their attitudes toward donation. The results of these studies make it difficult to extrapolate meaning to the broader population (Agrawal et al., 2017; Balwani et al., 2018; Ríos et al., 2017a, 2017b; Wilczek-Rużyczka, Milaniak, Przybyłowski, Wierzbicki, & Sadowski, 2014; Zhang et al., 2019). Furthermore, most of the existing studies in this systematic review surveyed participants with relatively high levels of education (e.g., bachelor's degree). Therefore, the findings cannot be generalised to people with lower levels of education and other related socioeconomic variables. With respect to the overrepresentation of younger people, future research should consider including slightly older age groups. Therefore, the problem of selection bias will be addressed by using a proper sampling technique that allows for greater confidence in the representativeness of the sample selected.

As detailed earlier, the review shows that most of the theoretically-driven studies have typically relied on a single theory such as the TRA or the TPB and have included a limited number of predictors into these models. While the TPB accounts for approximately 60 and 70% of the variance in intentions and behaviour, respectively, a large proportion of variance still unaccounted for. Neither of the existing

models consequently integrates the current knowledge from the rich literature on organ donation, which limits the scope of what can be learned and reduces the explanatory power achieved within an investigation (Falomir-Pichastor, Berent, & Pereira, 2013). According to Conner and Norman (2005), the social cognitive models such as the TRA and the TPB allow the inclusion of additional predictors to increase the model's predictive ability; however, these predictors should capture a significant portion of unique variance in intentions or behaviour on the context under examination. Gibbons, Houlihan, and Gerrard (2009) also suggested that a combination of constructs from the TRA or the TPB is more effective in explaining several behaviours than using the social cognitive model alone. Therefore, future research should examine additional personal and social influences that may impact people's organ donation decisions.

As noted by Rodrigue et al. (2004, p. 56) despite the considerable interest in the psychological factors underlying donation decisions, 'the literature has lacked a coherent, comprehensive conceptual or theoretical focus'. While the body of research on individuals' attitudes and intentions toward donation continues to grow, the existing literature still suffers from a lack of a strong theoretical foundation. The current review suggests that a few theories and models were applied in a wide range of disciplines. However, in the marketing context, most of the existing organ donation studies are not theoretically informed and have not provided any theory-related information. In order to get a better understanding of people's beliefs and attitudes in this context, 'theory-driven research should remain an essential part of our overall research enterprise, and we should foster its integration into applied research' (Petty & Cacioppo, 1996, p. 6). Therefore, theories are needed to explain and predict the formation and susceptibility of an individual's belief regarding organ donation.

## 4 Chapter Summary

The current chapter discussed the role of social marketing within the context of organ donation. This chapter also provides a systematic quantitative literature review of the existing organ donation studies from the period of 1985–2019. A comprehensive detail about the review methods and the review findings were also discussed including: the geographical distribution of 262 peer-reviewed organ donation studies around the world; the annual number of published articles from 1985 to 2019; the disciplinary scope of these papers; the sample characteristics and the key theories and models used to inform organ donation studies. This review of literature serves to identify the gap that frames the research objectives. This chapter concludes by exploring the main limitations of current organ donation studies.

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# Creating Effective Franchising Relationships: Challenges of Managing Mature Franchisees



Lorelle Frazer, Bill Merrilees, Greg Nathan and Park Thaichon

**Abstract** This case study demonstrates how a franchisor tailors the franchising service to maximise the effectiveness of the franchising relationship. The research uses an ethnographic approach to examine the relationship between a franchisor and several mature franchisees in a service industry franchise. It is well known that franchisees progress through various phases during the relationship. In this study, we focus on how and why mature franchisees differ in their attitudes and performance from immature franchisees, and we examine how the franchisor manages franchisees to maximise their potential. This study has developed a framework that describes the challenges and solutions for managing mature franchisees. The research reveals that franchisors need to keep experienced franchisees motivated and challenged if they are to remain dynamic operators within the system. On top of that, franchisors must remember the importance of transparency, and ensure the right recruitment of area managers whom the franchisees could trust and communicate with effectively. Additionally, there is a need to recognise that each franchisee is unique and must be managed individually, which involves recognising the stage of development through which the franchisee is progressing.

**Keywords** Franchising · Ethnography · Case study · Performance · Motivation · Service industry

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© Springer Nature Switzerland AG 2020

V. Ratten (ed.), *Entrepreneurship and Organizational Change*,

Contributions to Management Science,

[https://doi.org/10.1007/978-3-030-35415-2\\_7](https://doi.org/10.1007/978-3-030-35415-2_7)

## 1 Overview

A franchise business model and relationship are generally characterised by franchisees paying fees to a franchisor firm for the right to market goods or services using the franchisor's product, brand and systems (Weaven et al., 2019). While the mutual obligations between franchisees and franchisors are defined by a legal agreement, the franchise relationship is a relationship where franchisors and franchisees have mutual expectations of each other (Parker, Cutts, Nathan, & Zacher, 2018). Such a relationship can be referred to as a psychological contract (Nathan, 2009). This is particularly the case where the franchisor firm is controlled and led by the founding entrepreneur, who in this case, we will refer to as the franchisor. Thus, franchisees and franchisors operate together within a complex business and social framework, known as a franchise network (Combs, Ketchen, Shook, & Short, 2011; Nathan, 2016a, b). Therefore, the relationship between a franchisor and franchisees is dependent on the dynamics of individual personalities. Another important factor impacting on the nature of this multi-faceted relationship will be the developmental stage of the franchisee's business (Parker et al., 2018). With numerous franchisees at various stages of development at any point in time, it is a challenge for a franchisor to remain connected with each franchisee (López-Bayón & López-Fernández, 2016; Mullin & Fisher, 2017). It is generally recognised that franchisees progress through a series of developmental phases during the franchising relationship (Badrinarayanan, Suh, & Kim, 2016; Nathan, 2007). However, the franchising experience is unique for each participant, so franchisors need to be adept at leading and managing others in order to deal with these individual differences.

Trust between franchisors and franchisees leads to healthier relationships between the parties (Morgan & Hunt, 1994; Parker et al., 2018) and improves the relationship life span (Dowell, Morrison, & Heffernan, 2015). For instance, businesses should focus on relationship quality to improve and maintain existing relationships with stakeholders (Ohira, Ishida, & Onzo, 2016). Therefore, improving and maintaining a relationship is an important concept for businesses and practitioners to understand (Hopkinson & Hogarth-Scott, 1999). Based on the foregoing discussion, this research explores the various relationships that a franchisor encounters with mature franchisees.

This study adopted an ethnographic approach to study the organisation and its people in-depth since ethnographies involve an examination of 'culture, power and ... conflict' (Goulding, 2002, p. 25). Although historically used by anthropologists (Patton, 2002), the technique is now adopted in a wide range of disciplines, including the study of management style (Goulding, 2002), tourism management (Konu, 2015), gaming (Snodgrass et al., 2017), and education (Reeves et al., 2016). Ethnographic research is particularly suited to the study of small business (Jack & Anderson, 2002; Ritchie & Richardson, 2004).

In the following sections, a brief review of the relevant literature is provided, the methodology for the study is justified, and the findings from the research are revealed. In brief, this research examines the nature of the franchising relationship

over an extended period of time, in order to better understand what it is like to be a franchisee. In particular, it examines the effectiveness of strategies used by a franchisor to manage individual franchisees.

## 2 Literature Review

Franchising is an emerging research area and has been a focus of recent studies in many countries including Canada (Maciejewski, Jaana, Keely, Crowe, & Liddy, 2018), China (Alon, 2016), USA (Seo, 2016), India (Mohan et al., 2017) and Australia (Timms, Frazer, Weaven, & Thaichon, 2019; Young, Frazer, Weaven, Roussety, & Thaichon, 2019). It has been described in the literature as being similar to either marriage (Germann, 2003; Nathan, 2016a, b) or a parent–child relationship (Justis & Judd, 2004). The former account assumes an interdependent relationship, starting with a honeymoon period followed by its fair share of tension, with both parties contributing to a successful business relationship. The latter, which is possibly a better description, reflects the initial high level of dependence of the franchisee on the franchisor, with the franchisee gradually lessening its dependence overtime before finally reaching a mature level of co-dependence with the franchisor. Whatever the categorisation, most franchising agreements are for five or more years (Frazer & Weaven, 2004), a term long enough to require an enduring relationship between the parties.

The stages that franchisees typically experience throughout the franchising life cycle have been demonstrated by Nathan (2012). These include an initial euphoric stage upon entering the franchise, referred to as the Glee Stage, later stages of disillusionment and rebelliousness as a franchisee starts to focus on what they are getting for their fees, referred to as the Fee, Me and Free Stages, and finally acceptance of the synergies provided by the franchising model and alignment of shared goals, referred to in Nathan's model as the See and We Stages. A modification of this model has been proposed by Schreuder, Krige, and Parker (2000), but their 'franchisee lifestyle concept' assumes that franchisees will reach a 'rebel phase' (p. 14) and then move to a revived courtship with the franchisor at the time of contract renewal. While undoubtedly true for some franchisees, this model fails to recognise that mature franchisees have a different set of goals and individual needs from those of beginning operators.

Previous research has also focused on related issues concerning franchising relationships, such as the degree of power and control exerted by the franchisor (Dapiran & Hogarth-Scott, 2003); the expectations of franchisees after the opening a part-time franchising business (Thaichon, Weaven, Quach, Baker, & Frazer, 2019); the impact of learning and development on business performance (Timms et al., 2019); work-life balance in small business (Young et al., 2019); satisfaction in the franchising relationship (Hing, 1995); and the roles and competencies of franchisors and franchisees (Lim & Frazer, 2004). However, to our knowledge, this is the first study to

explore the effect on the franchising relationship of strategies used by franchisees to deal with the developmental stages they experience. In the next section, we describe how our study was designed.

### 3 Methodology

This study aimed to attempt to capture the experience of what it is like to be a franchisee using an ethnographic approach. The choice of an ethnography was appropriate as it allowed us to study the behaviour of participants within a franchise setting and culture. There are several features of an ethnographic approach that appear in this study (Punch, 2005). Firstly, there is an assumption that behaviour is linked to the culture of the group. In order to study participants effectively, ethnographers need to be sensitive to the meanings of the context and behaviour. The group should be studied in its natural setting, and so participant observation is a recommended form of data collection. The data needs to be collected over a prolonged period of time in order to be sufficiently comprehensive. Finally, the study should evolve as the data is collected, indicating that hypotheses should not be formulated ahead of the research. We used the following techniques to conduct the ethnographic study.

Jay's Dog Wash was chosen as the franchise system in our study for several reasons. First, participants were based locally, which provided easy access. Second, it is a relatively low-cost franchise that uses a simple operational system and is easily taught to new members. Thus, it is the type of franchise system that attracts many first-time franchisees. Lastly, the research team already possessed a good knowledge of the franchise, having used it in research previously. It is common in ethnographic research to use judgemental sampling in order to select the most appropriate participants (Fetterman, 1998). Four franchisees that had been in the system for five or more years and were therefore experienced operators were selected by the franchisor to take part in the study. Two researchers each met personally with two franchisees, as well as with the franchisor and an area manager, in the field over a period of 12 months. Our observation of participants involved interacting with the franchisees as they performed their work and discussing their day-to-day activities with them. Thus, our observation involved direct contact with the franchisees in their natural setting (Goulding, 2002). We concluded the data collection when we recognised the point at which nothing new of cultural significance was being gained. Participant and franchise names have been changed to protect their identity.

It is regarded as essential for ethnographers to have a basic understanding of the culture they are observing and to be fluent in its language (Goulding, 2002). Our research team consisted of people with expertise in franchising and included a corporate psychologist who specialises in franchising relationships. By having a team of three researchers, we were able to critically reflect upon the data collected and offer alternative explanations for incidents that occurred. The participants were fully aware of the observers' roles and were briefed on the goals of the research.

The data collection involved observation, interviews, recording conversations, keeping field notes, reflecting, analysing and finally, writing up the results. We used a recursive interviewing technique, which encourages participants to offer information through informal conversations with the researcher; thus, we relied on conversational interaction and open questioning rather than on an interrogative approach (Minichiello, Madison, Hays, & Parmenter, 2004). The analysis was reflexive in character and included the franchisees' viewpoints (emic perspective) as well as our outsider (etic) perspectives (Goulding, 2002). Ethnographic research does not occur in a linear pattern, but is iterative, with each step leading us to reflect upon and, where necessary, review earlier steps in the process. We used one another as sounding boards to 'crystallise' our thoughts (Fetterman, 1998, p. 108). By also interviewing the franchisor and area manager about their interpretations of the franchisees' experiences, we triangulated the data by testing one data source against another in order to 'strip away alternative explanations' (Fetterman, 1998, p. 95).

The results of the study are presented below. Because the value of ethnography is found in its narrative (Chambers, 2000), the story reveals a culture that is constantly under construction. Whereas most ethnographies are often not developed beyond the level of the thick description presented as informants' stories (Goulding, 2005), the discussion that follows offers our insights into the mindsets of individual franchisees coping within a dynamic environment.

## 4 Findings and Discussions

The franchisor, Jay, selected four franchisees for our study that had been with the organisation for several years. Carol was a franchisee of five years' experience. She had previously been a customer of the service and was encouraged to join the franchise with its flexible working hours that suited her family lifestyle, due to her desire to achieve independence. Formerly in paid employment, this was Carol's first foray into business.

Des was also a former customer of the franchise (many of the franchisees are recruited in this manner). Previously self-employed as a dog trainer, Des had joined the franchise seven years earlier as a means of combining the two complementary services of dog washing and training, and he continued to run the two businesses simultaneously, with Jay's approval.

Keith first joined the franchise as an employee. To cope with demand, staff are needed in some territories to assist the franchisee who may have two, or even three trailers in operation. After a few months, because Keith demonstrated appropriate skills and enthusiasm, Jay offered him the opportunity to establish a territory for himself as a franchisee. He had been an owner-operator in the system for five years when we began the study.

Mandy was the most experienced operator, having been a franchisee for some nine years. Although she had no prior business background or knowledge (she had been a manual worker), Mandy recognised the franchise as a good opportunity for

supporting herself. One of Mandy's friends was a franchisee, which allowed her to observe at close range how the system operated. When her friend wanted to sell, Mandy took the opportunity to join the system.

Although the franchisees had roughly the same amount of experience with the business, the stage of development for each was slightly different. Carol and Des were struggling with their feelings over whether the franchise was offering them sufficient value. Both had an independent streak, which meant they often questioned the way the system operated. They were most likely experiencing symptoms of Nathan's (2007) 'Me' and 'Free' stages, which are characterised by a sensation of being hindered rather than helped by the franchise structure.

In contrast, Keith and Mandy seemed never to have experienced this sense of isolation. Both were extroverts and regarded as leaders in the franchise because of their operational success as well as their innovation and high levels of motivation. Keith was in the 'We' stage of the relationship (Nathan, 2007), recognising the benefits of cooperation and striving for mutual goals with his franchisor. Mandy was on the verge of reaching the end of her franchising life cycle and was considering moving on to other ventures for positive rather than negative reasons. Despite this increased maturity, she was a huge advocate of the system that had helped her to reach her level of business success.

With some 140 franchisees in the system, Jay was constantly challenged to provide the right level of mentoring and support for franchisees who had differing needs and expectations. Despite being the founder of the system, Jay could no longer handle the day-to-day interaction with franchisees, and instead used a system of area managers to support the franchisees in their territories. Trevor was a recently appointed area manager for the four franchisees, among many others. He had worked his way up through the organisation as a franchisee himself, and now accepted responsibility for monitoring the performance of other franchisees. The fact that he had been an operator himself gave him credibility in the eyes of the franchisees. In addition, he carried out his job in a hands-on manner, visiting franchisees regularly and offering practical advice.

Our visits to the franchisees, area manager and franchisor, provided us with insights into the individual differences apparent among franchisees and into ways to cope with them. Firstly, let us consider the situation of Carol. Despite being in the franchise for five years, Carol was clearly feeling dissatisfied and isolated. On a scale of 1–10, she rated her level of satisfaction as only four and decreasing. The main cause of her disappointment seemed to be a mismatch of expectations and reality. She was struggling against the bureaucracy of the system, feeling that it was a case of '*us versus them*.' While she wanted to be part of a team environment, she was not a team player herself and her independence was isolating.

Carol found that the switch from being an employee to a franchisee was quite a large cultural adjustment. At first, the idea of having to go into people's homes and talk to them was rather daunting. Now, however, Carol prides herself on her customer service and her ability to attract and concentrate on 'A' level customers whom she values more highly than the franchisor. '*My customers are more important than the franchisor to me because ... we're just the army out there earning money for them*'.



This feeling of detachment seemed to stem from Carol's perception of the franchisor having a low level of commitment. Carol had initially relied heavily on the former franchisee who had sold her the business, and when this person finally left the district, she felt somewhat abandoned. That level of personal association was replaced by an area manager, Trevor who was *'looking after about 50 people'* and who Carol felt was not very helpful in helping or suggesting with her business. When the new area manager, Trevor, arrived, Carol once again felt anxious at the prospect of losing his assistance, especially after hearing from other franchisees, rather than formally, that Trevor was departing. *'He's heading over to America. So that's probably another thorn in my back, the fact that they put him in just as a stepping stone ... that link is not going to be there again.'* Rather than communicate her feelings, Carol internalised them: *'I just put the franchisor stuff in the back of my mind and deal with that when I have to.'* Carol also felt she was not overtly valued by the franchisor: *'They only ever ring me if they want something'*. Similarly, she felt distanced from other franchisees who were *'tied up with their lives, with work and families ... you don't mingle with anyone ... you feel like you're the only one out there'*.

Perhaps due to the length of time she had been in the franchise, Carol felt there was little else the franchisor could teach her. Indeed, she felt she should have more say in how the system should run. In most franchise networks, a source of controversy is often the way the franchisor spends the marketing fund, and in this case, Carol expected to have some involvement in the decision making. *'We are not asked how we want to spend (the marketing fund)... There is no forum on how the money we're paying is spent'*. Carol was unable to articulate her goals or plans for the future and needed help in deciding whether the franchise could continue to offer her the lifestyle she desired.

After the first year, you sort of realise that it's not all rose petals. I think the perception is that you're going to earn a lot of money, but in reality, you've got to bust your hump to earn heaps of money, and probably work harder than someone working for a company. The reality is that you don't earn a lot of money and once you realise that you probably start going down. But I've always said it was a lifestyle thing for me.

Des presented a similar challenge to the franchisor, although he was more satisfied with the relationship than Carol. His motivation for joining the franchise was the idea that in doing so, he might be provided with a vehicle that could also be used for increasing the client base of his existing dog training business. His early expectations of the franchise were soon exceeded, and he had so much work that his wife left her own paid employment to join him. They now run two trailers in their territory. Although it was a lifestyle decision for Des to join the franchise, he has found himself pleasantly surprised with their success. *'We're not rolling in cash, but it's given us a little bit more of an independent lifestyle than what we had before'*.

Although most franchisors prefer franchisees to be solely involved with the franchise, Jay made an exception with Des because of the complementary nature of his own small business. There is no doubt that Des considered himself to be an expert in the handling and understanding of dogs:

We are quite into dogs. We breed them, we train them, I do my security work with them, we do search and rescue work with them, and to us, dogs are not an unknown thing. We don't look at dogs the same way that you might look at your dog as a nice loving pet. We understand exactly what dogs are.

Despite the confidence that Des exhibited about his capabilities, he valued Jay's knowledge and business expertise. To Des, the franchisor had almost legendary status, and he enjoyed telling the interviewer the story of how Jay began the organisation when just a teenager. Nevertheless, his admiration of the franchisor did not deter him from investigating the possibility of sourcing the franchise products himself. Within a month of joining the franchise, Des had checked prices with product suppliers but concluded that Jay was not overcharging him. *'These people (other suppliers) were quite happy to give us a price, but it was well above what we were paying through our franchise, so now we know ... I mean, not that we didn't trust the company, but we just wanted to know.'*

As had Carol, Des had felt dissatisfied with the former area manager's support. Although there were formal communication channels between the franchisor and franchisees, such as through the Franchise Advisory Council, Des found that franchisees generally resorted to informally providing their own support system. They swapped telephone numbers and helped one another out, sidestepping the ineffective area manager. When Trevor was appointed area manager, the need for the franchisees' informal support structure dissipated. *'From the day Trevor took over everything changed. He touched base with every franchisee face to face.... He basically gave everyone a pat on the back, told them that they were important to the company and that his door was always open. Every time anyone had a concern, and they contacted Trevor, it was fixed quickly and professionally.'* Following Trevor's appointment, Des felt more satisfied with the franchise as he considered he was valued, and received adequate acknowledgement for his contribution and expertise. Des is a unique franchisee in the way that he combines an external business interest with the franchise operation, and so the franchisor has had to accommodate his special needs.

Whilst Des and Carol posed a challenge to the franchisor in terms of keeping them motivated, Keith was fully motivated. He enjoys the work immensely and has been so successful that his wife has recently bought her own franchise territory. Keith can see himself doing the work for at least another ten years, so great are the challenges ahead. Even within a simple franchise system that has a relatively low start-up cost, people can forge a successful business career for themselves. Keith is such an example. He regularly washes 90–100 dogs a week, well above the average of 50–70. He sets goals and loves achieving recognition within the system for his high performance. Keith identifies strongly with the business, and the network surrounding the franchise is an important part of his life. *'Most of my friends are dog washers or customers of mine.'*

However, without opportunities provided by the franchise system, franchisees like Keith may flounder. Keith sees himself as a mentor for newer, less experienced franchisees and enjoys being able to help others to succeed. Although personally competitive, he does not see other franchisees as obstacles to his success. Rather, Keith values the synergistic effect of teamwork within the system. When the work

was becoming less challenging, Jay offered Keith the opportunity to become a trainer of new franchisees.

Additionally, as he built up his territory, Keith was allowed to split part of it off to sell, creating yet another challenge for himself: to build his customer base in the remaining territory to equal that which he had achieved previously. Keith loves the freedom of being a franchisee, enjoys the outdoor lifestyle, and like most other franchisees in this system, loves the dogs. *'You can be as grumpy as anything but by the time you finish that first dog you calm down and change your outlook on the day. Now it's not just a horrible day, it's OK. I'll go and see my next lovely creature.'* Keith may seem like a dream franchisee, but the franchisor had had the foresight to keep him challenged by offering rewards for his high performance and providing opportunities that allowed him to share his expertise within the system.

Finally, we turn to Mandy, who joined the system on the recommendation of her friend. Mandy has several pets that she regards as part of her family—her *'furbkids'*. As with Keith, Mandy did not have any specific goals, apart from making a modest income, when she first joined the franchise, but she soon became surprised at her success. Mandy sees herself as more businesslike and professional than other operators and feels this is what sets her apart from many franchisees who treat the operation more like a job than a business. She sets personal goals and continues to raise the bar as each challenge is reached. Similar to Keith, Mandy has split territories, added an extra trailer, operated as a trainer and served on the Franchise Advisory Council. In addition, she has contributed some innovations to the system, such as the electronic diary and booking system she created. Driven to improve her skills, she has invested in dog training sessions so that she can learn more about dogs. Very few franchisees are motivated to take this extra step in their preparation.

Although she had no business skills when she joined, Mandy now feels equipped with enough skills to soon branch off into her own business in another industry. However, she would not consider trying to compete with the franchisor. *'I know I could, though I would be in breach of my contract. Yes, I've thought about it, then I thought, well no ... if I sold the business to someone else, I'd take all their clients from them, and it wouldn't be fair on them.'* Because she did not enter the franchise with high expectations, Mandy has rarely felt disappointed or frustrated with her progress. It is clear that Jay has not made unrealistic promises to prospective franchisees that have resulted in disappointment when not realised. It seems a much better option to let people experience the level of achievement appropriate to their personal abilities and efforts.

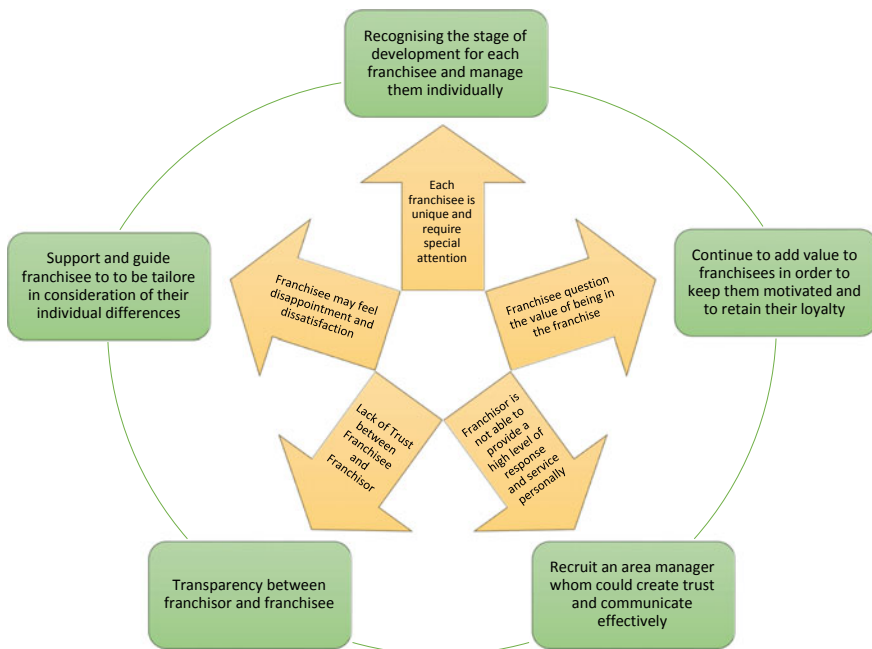
All four franchisees had felt some frustration with the former area manager, Sue, so we checked this out with the franchisor for a more balanced view. The franchisor, Jay, was more supportive of Sue's contribution, especially since Sue had taken on the job to help out when no other suitable personnel had been available. However, the new area manager, Trevor, was recruited because of his leadership and business potential, whereas Sue had wanted to treat the franchisees like friends. Jay reflected on this from his position as a franchisor: *'It wasn't about being friendly; it was about getting them successful in their business. You can be liked or disliked, but at the end of the day, you've got a job to do.'*

## 5 Challenges and Solutions of Managing Mature Franchisees

This ethnography of franchisees in a successful system under the guidance of an experienced franchisor has revealed several features associated with the challenge of managing mature franchisees. Figure 1 demonstrates the solutions (green) to each of the challenges (yellow) of managing mature franchisees.

There is a need to recognise that *each franchisee is unique and must be managed individually*. This approach also involves *recognising the stage of development* through which the franchisee is progressing. The long-term franchisees that we included in this study were well past the honeymoon phase of the relationship that participants experience in the first few months of entering the franchise. However, each of the four participants had experienced different paths in their journey. Carol and Des considered themselves successful and living the lifestyle they wished, but both were also suffering conflicting feelings of doubt, disappointment and some dissatisfaction.

**Suffering conflicting feelings of doubt, disappointment and dissatisfaction.** Carol, in particular, demonstrated signs of a victim personality. Stuck in the me/free stage of the Nathan satisfaction model, Carol was in danger of reinforcing this perception of herself without proactive intervention and adequate support from the



**Fig. 1** Challenges and solutions of managing mature franchisees. *Source* Author’s own figure

franchisor. Rather than be expected to progress through this stage, disengaged franchisees need additional contact from the franchisor and area manager as well as evidence of how they are being helped. Following our interviews, we discovered that Carol had sold her franchise and departed the system. In comparison, Des, who had a similar level of disenchantment, adopted a fighting approach to resolve his problem. On the other hand, Keith was revelling in his achievements and was propelled to greater heights by his own motivation. Mandy was likewise a high achiever and very successful, but now needed to look beyond the franchise for a further business challenge. The management of each *franchisee needs to be tailored in consideration of their individual differences*.

*Trust is a fragile element in the relationship* as we observed when Des explored the possibility of sourcing products from other suppliers. *Transparency* is very important, and if the franchisor does not provide sufficient evidence or help from the franchisor, then the franchisee might mistrust her actions. Similarly, Des was proactive in initiating meetings with other franchisees when he was dissatisfied with Sue's performance as an area manager. Left to their own devices, franchisees may join together and adopt a militant frame of reference if the franchisor does not address the problem. In this case, Trevor was appointed as a new area manager and the issue quickly dissipated.

Also, the franchisor was well aware of *not being able to provide a high level of response and service personally* to all franchisees. Instead, from among the high performing franchisees, an area manager was recruited who could take care of supporting franchisees, while the franchisor concentrated on strategic issues for the organisation such as overseas expansion and marketing. *'I'm not in contact with them on a day-to-day basis ... (but) I am still approachable ... I have had to distance myself... so that they understand that there is someone else that they can go to.'* Jay was nevertheless sufficiently close to the franchisees to remain in their high regard. For the franchisees, the franchisor was the focus of the organisation as Jay's identity and personality were closely aligned to the mission of the business. It would be difficult to see how a new franchisor could retain this spirit if the franchise ever changed hands, as the business founder in this particular case, was afforded much credibility by the franchise operators. When an area of concern arose regarding a former area manager, it was soon corrected by the franchisor, who *recruit[ed] a more suitable area manager whom the franchisees would trust and who could communicate effectively* with his team.

Being a very simple franchise with a low start-up investment, it would be easy for it to attract naïve investors, introduce them to the system and then leave them alone. The problem with this approach is that *franchisees very soon become expert operators and then question the value of being in the franchise*. In the current study, the franchisor was astute enough to *continue to add value for franchisees in order to keep them motivated and to retain their loyalty*. In particular, Jay was proactive in recognising individual strengths and rewarding people appropriately. He ensured high achievers were given due recognition and prevented from becoming bored by providing opportunities for challenge. All the franchisees were motivated by the desire to build up and split off their territories, providing a win-win situation for

all parties. Even franchisees who were content to adopt an easier lifestyle and not wash 80 or more dogs per week, were able to set their levels of performance without upsetting the franchisor, who pointed out it was not about the money: '*Money doesn't motivate people. It's the recognition of what they do, being good at their job (that motivates them)*'. For instance, Des was permitted to leverage his former dog training operations with the dog washing enterprise. By allowing this, the franchisor did not compromise franchise system standards but reached a solution that recognised Des' need to pursue both operations.

When franchisees have been in the system for several years, they may tire of it and either need to leave the system or find ways to remain challenged and to rejuvenate themselves. Sometimes franchisees will be satisfied with their performance and lifestyle, yet critical of the system, as revealed in this case. Due to their personalities, some franchisees will never be great advocates for the system and will find faults with many aspects, yet still choose to remain. The challenge for the franchisor is to find ways of harnessing their energy into something more positive, or if they are in decline, to manage them out of business (Nathan, 2016a, b).

## 6 Conclusion

This study aimed to capture the experience of what it is like to be a franchisee. An ethnography was appropriate for doing this, as it allowed us to study the behaviour of participants within a franchise setting and culture. This study focusses on how and why mature franchisees differ in their attitudes and performance from other franchisees, and we examine how the franchisor manages franchisees to maximise their potential. This study has developed a framework that describes the challenges in and solutions for managing mature franchisees.

**Acknowledgements** This research was conducted via funding provided under the Griffith University Industry Collaborative Scheme in conjunction with the Queensland Department of State Development and Innovation.

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# Theoretical Insights into Organ Donation and Social Change



Amani Alsalem, Scott Weaven and Park Thaichon

**Abstract** This chapter provides a comprehensive review of the most dominant theories that have been widely applied in the organ donation and social change context, as well as presents the main strengths and limitations of these theories. The review included the Social Cognitive Theory (SCT); the Prospect theory (PT); the Theory of Reasoned Action (TRA); and Theory of Planned Behaviour (TPB). This review serves to identify the gap of the current literature. This chapter provides a solid theoretical foundation and has initiated further pathways for future researchers who are interested in the fields of organ donation, social marketing and social change literature, as well as cognitive decision-making theory. In particular, the current review also advances social marketing and health care literature evidencing how theories can inform and guide the research.

**Keywords** Organ donation · Donation · Social change · Behaviour change · Theoretical insights

## 1 Introduction

Lefebvre (2013) argues that theory in itself mainly aims to understand and describe the investigated phenomena, thus, it can offer an important redirection and further strengthen existing views of the issue under investigation. According to Rundle-Thiele et al. (2013), it is essential for social marketers who seek to change behaviours for the better, to actually test the existing theories and models in real-world settings. In addition, Quick, Anker, Feeley, and Morgan (2016) state that the evolution of theory requires replication and extension of models to other samples of interest (p. 271).

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_8](https://doi.org/10.1007/978-3-030-35415-2_8)

This chapter provides a comprehensive review of the most dominant theories that have been widely applied in the organ donation context, as well as presents the main strengths and limitations of these theories. The review included the Social Cognitive Theory (SCT); the Prospect theory (PT); the Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB). This review serves to identify the gap of the current literature. This chapter provides a solid theoretical foundation and has initiated further pathways for future researchers who are interested in the fields of organ donation, social marketing and social change literature, as well as cognitive decision-making theory. In particular, the current review also advances social marketing and health care literature evidencing how theories can inform and guide the research.

## 2 The Social Cognitive Theory (SCT)

The Social Cognitive Theory (SCT) is a social cognition model developed by Bandura (1977). The theory focusses on the importance of modelling or observational learning. It is an observing and learning theory based on the idea that people learn, not only through their own experiences, but also by observing others; with the environment, behaviour, and cognition acting as primary factors that influence development in a reciprocal triadic relationship. In this model of reciprocal causality, Bandura (1986) emphasises the interplay between personal factors (i.e. ability and emotion) and external factors (i.e. opportunities) which all operate as interacting determinants that influence one another bidirectionally. According to the theory, when individuals observe a model performing a behaviour, and the outcomes of that behaviour, they generally remember the sequence of events and use this information to guide their own future behaviours. Therefore, the observers do not learn new behaviours by trying them, but they may choose to replicate the behaviour model, depending on whether people are rewarded or punished for their behaviour. However, it is important to note that people can learn through observation alone, therefore, learning could occur without a change in their behaviour (Bandura, 2009).

The SCT suggested that personal and biological factors cannot fully explain human behaviour (Bandura, 1998). The core concept of the theory is that people act within a concept of “Triadic Reciprocal Causation”, in which behaviour is depicted as either being shaped by internal personal factors (e.g. whether the person has high or low self-efficacy toward the behaviour) or driven by environmental influences. Bandura (1986) argued that learning occurs in a social context with dynamic and reciprocal interactions of the person, environment, and behaviour. The SCT identifies two important predictors of intention (motivation) to participate in a particular behaviour: self-efficacy beliefs and outcome expectations. Performing or not performing a specific behaviour is a rational decision, and therefore, people will only carry out the behaviour if they believe that they can successfully perform it and if they get more positive outcomes than negative ones (Luszczynska & Schwarzer, 2005). However, the SCT does not suggest that these factors always operate in unison, but

in fact, some factors might be more dominant than others depending on the situation as well as the individual's thoughts and emotions.

Outcome expectancies are the person's beliefs about the expected positive and negative consequences of performing a particular behaviour. An outcome expectation refers to the anticipation of physical, social and self-evaluative aspects of action. Physical expectations of the effects of attempting to become an organ donor may be positive or negative. For example, many people believe that a potential donor will be medically neglected in cases of emergency. This negative expectation that signing organ donor cards would increase their vulnerability to being neglected in medical settings, prevents lots of people from registering. Social outcome expectations in the case of organ donation may refer to family, friends or significant others approval to donate organs. The self-evaluative outcome may refer to the potential donors anticipating being proud of themselves to sign donor cards. Outcome expectancies are important when people intend to take action but are less important once the behaviour is underway (Bandura, 1986).

The concept of self-efficacy is defined as individuals' judgements of their capabilities to successfully accomplish a certain behaviour, as well as achieving their desired outcome (Luszczynska & Schwarzer, 2005; Super, 2005). Perceived self-efficacy determines how much effort an individual will exert in an activity and how long they will persevere in the face of difficulties and failure experiences. For example, individuals with a strong sense of self-efficacy often approach difficult tasks as challenges to be mastered rather than as threats to be avoided. In contrast, individuals who have negative self-efficacy expectations and with self-doubt about their capabilities are more prone to take a pessimistic view of their ability to execute agency (Bandura, 2001). Bandura (1998) state that a strong sense of self-efficacy is important for successful functioning, even if it is achieved individually or by group members working together.

A person's expectations of their own self-efficacy can be developed from four main sources of influence: (1) mastery experience; (2) vicarious experience; (3) verbal persuasion and (4) psychological and physiological state (Bandura, 2010). According to the SCT, the most effective way of creating a strong sense of efficacy is by prior experiences or enactive mastery experiences. Successes can firmly establish and build a robust belief in one's personal efficacy, especially if the success is understood to be as a result of skill and not just by chance. The feelings then generalise to other new activities that are similar to the successful tasks. A resilient sense of efficacy requires experience in overcoming setbacks and difficulties through perseverant and sustained effort. Failure reduces self-efficacy, particularly if failures occur before a sense of efficacy is firmly established and if it believed to be caused by a lack of skills rather than unfortunate circumstances. When people doubt their abilities, they are more likely to stop trying. The second way of strengthening self-beliefs of efficacy is through the vicarious experiences produced by the actions of others. Social comparison is important, as seeing other people coping and persevering can encourage performance. Perceived self-efficacy is strongly influenced by perceived similarity to the models. This can shorten the learning time because individuals have seen or visualised the way to do a task, instead of learning by trial and error. Verbal

or social persuasion received from others is a third way of creating and strengthening people's beliefs that they can achieve and succeed in a given task. People who are persuaded verbally that they possess the capabilities seem to be more willing to face challenging activities and are more willing to mobilise greater effort to succeed. However, if the outcome of the action is unsuccessful, then the persuader's reputation could be affected, and one's self-efficacy will be decreased. Verbal persuasion seems to have a limited effect because people have not yet had the experience (Bandura, 2009). Finally, individuals rely partly on their physiological and emotional states in judging their capability or ability to complete a task. Positive or negative moods also influence people's judgments of their personal efficacy. Improving physical and emotional states can be strengthened by ensuring a person is rested and relaxed prior to attempting a new behaviour. For example, anxiety, stress, and fatigue can provide information about efficacy beliefs. Individuals are more likely to interpret their stress reactions and tension as signs of vulnerability to poor or unsuccessful performance (Bandura, 2001, 2006, 2010).

The SCT has been widely applied as a theoretical framework to study organ donation attitudes and behaviours. Brug, Vugt, van Den Borne, Brouwers, and Hooff (2000) illustrate the use of the SCT to identify relevant determinants of organ donor registration among Dutch high school students. This study found that most of the participants reported a positive attitude towards registration and were willing to register as organ donors. Negative outcome expectancies related to organ donation, social outcome expectation and past experience with organ donation issues found to be significant predictors of willingness to as an organ donor. However, self-efficacy and correct knowledge about organ donation was not directly associated with willingness to register as an organ donor. Therefore, the results of this study provide partial support for the SCT.

In addition, Anantachoti, Gross, and Gunderson (2001) used the SCT to evaluate the impact of a high school education program to promote awareness about organ donation. It was found that the education program significantly increased the students' attitudes, knowledge, and intention to discuss the donation wishes with family. Therefore, the findings of their research provide empirical support for the theory. On the basis of the social cognitive theory, Reubsæet, Brug, De Vet, and Van Den Borne (2003) also conducted a research to evaluate an intervention to increase self-efficacy intentions to register organ donation wishes, as well as to examine the impact of an enactive mastery experience intervention on self-efficacy and motivation to sign an organ and tissue card. The results showed that self-efficacy and intentions to sign an organ donor card at post-test were significantly higher in the intervention group. The results show that practising the completion of a registration form could increase an individual's intention to sign a donor card but do not increase their willingness to become a posthumous organ donor.

Another study was also conducted by Reubsæet et al. (2005) to examine the impact of an organ donation education program on high school students' intention to sign donor cards. This study was informed by the SCT, and the results show that adolescents who were exposed to the school-based education program were more willing

to be a posthumous organ and tissue donor, had more positive registration intentions, had a higher level of knowledge about donation, had more positive social outcome expectations, higher self-efficacy regarding organ donation registration and had significantly less negative outcome expectations related to organ donation registration.

Furthermore, Wu (2009) applied the SCT to investigate the impact of the negative expectation of medical neglect, death anxiety and self-efficacy toward signing the donor card, as well as self-efficacy to discuss organ donation with family among Chinese adults. The results show that a higher level of death anxiety was correlated with a greater expectation of medical neglect, a lower level of self-efficacy, and subsequently, a lower likelihood of donor card signing and discussion of organ donation. Another study by Wu, Tang, and Yogo (2013) also used the SCT to examine the influence of self-efficacy, death anxiety and altruism on the intention to sign a donor card among Japanese students. In line with the social cognitive theory, the study findings suggested that death anxiety indirectly hinders individual's intention to sign a donor card through lowering of self-efficacy, while altruism intensifies the positive impact of self-efficacy on signing intention. Hence, self-efficacy towards signing a donor card was a significant cognitive correlate of people registration intentions. In addition, Quick, Morgan, LaVoie, and Bosch (2013) illustrate the use of the SCT to test the influence of the television series "Grey's Anatomy" on cognitions and feelings with respect to organ donation and how each relates to organ donation attitudes. The research findings provide additional support for the SCT, suggesting that viewers vicariously learn about organ donation via Grey's Anatomy portrayals.

On the other hand, Vancouver and Kendall (2006) highlight several limitations of the SCT, specifically in relation to the concept of self-efficacy. Conventional wisdom holds that increasing self-efficacy will result in increases in performance. However, questions have arisen over the validity of the positive relationship between self-efficacy and performance as claimed by Bandura's work. Even though high self-efficacy can motivate people to adopt high-level goals, it could decrease motivation within a goal level. It was found that a strong belief in one's own abilities to perform certain behaviour can lead to over-confidence and become disadvantageous to performance (Stone, 1994; Vancouver, Thompson, & Williams, 2001). These results were also confirmed by Bandura and Jourden (1991), who was found that high-self-efficacy individuals were less attentive and effortful than those who have low-self-efficacy. Therefore, making causal statements regarding the influence of self-efficacy on individual performance can be problematic. Furthermore, the SCT is also so broad and loosely organised, therefore, it has been criticised for lacking any one unifying principle or structure. Additionally, Bandura (1977) stated that human behaviour is largely learned through observation, however, it was argued that some behaviour is a result of emotional responses, which has little to do with observation. Moreover, some researchers argue that Bandura (1986) oversimplified the relationship between the self-efficacy beliefs and outcome expectations, and the roles he suggested they each play, are not entirely clear (Eastman & Marzillier, 1984; Kirsch, 1985).

### 3 The Prospect Theory (PT)

Prospect theory (PT) is a behavioural model developed by Tversky and Kahneman (1981). The PT combines important ideas from psychology, economics and mathematics into an eclectic model in the context of decision-making under risk and uncertainty. In the original formulation, the term prospect referred to a lottery, as a decision made under risk can be viewed as a choice between prospects or gambles. The theory distinguishes two phases in the choice process: editing and evaluation of prospects. The prospect theory is based on two basic tenets: reference dependence and probability distortion (Lewandowski, 2017). It demonstrates that decision weights are solely determined by the probability weighting function, which captures a decision maker's intrinsic attitude towards probabilities. According to the theory, when the amount of gain and the amount of loss are equal, negative events are assigned twice as much weight than positive ones, and the outcome is less important than the perceived value of the loss or gain. Hence, individuals tend to be generally loss-sensitive and risk-averse with respect to gains and risk-acceptant with respect to losses. Kahneman and Tversky (2013a) state that people often avoid risk for gains, but they will take risks to avoid loss.

The PT states that individuals generally respond differently to gain and loss-framed messages, depending on whether they are framed to emphasise losses or gains. In a persuasive message, a gain-framed message highlights the potential gain and favourable consequences of compliance, while a loss-framed message emphasises the possible loss and negative consequences if a given action is not taken (Maheswaran & Meyers-Levy, 1990). These gain or loss frames can have strong influences on decision-making. The PT has also been applied to explain responses to messages that emphasise personal risks to the self (such as body mutilation) or risks relevant to others (such as death of potential recipient). Previous researchers indicate that perceived risk to the self or others competes with each other for behavioural influence. This could be the case as they involve conflicting goals. People often consider the gains and losses related to both types of risks and make their decision according to the one they believe to be the most salient (Cohen, 2007). However, making a risk-laden decision is a matter of individual difference (Kahneman & Tversky, 2013b).

Generally, the theory is often applied as a descriptive model in an economic context (Tversky & Kahneman, 1981). However, the theory has recently been applied to explain altruistic behaviours and has started to attract attention in the organ donation literature. Within the context of organ donation, Parisi and Katz (1986) examined the effects of self-relevant risk perceptions and other-relevant risk perceptions associated with becoming an organ donor and on how individuals respond to gain and loss-framed messages. The study results showed that individuals weigh up both the potential benefits and risks to themselves (e.g. creating family conflict), as well as the benefits and risks to the potential recipient. In particular, their research shows that people are more likely to be concerned about the potential gains or losses to

themselves rather than the gains or losses to other individuals (e.g. transplant recipient). Furthermore, individuals with lower levels of self-risk perceptions were found to be more willing to become organ donors.

Reinhart, Marshall, Feeley, and Tutzauer (2007) applied the prospect theory to examine the connection between message framing and psychological reaction. In three experiments, the participants who were exposed to gain-framed messages (e.g. benefits of donation) reported more positive reactions than participants exposed to loss-framed messages (e.g. negative consequences of not becoming an organ donor). For example, when the participants were informed that becoming an organ donor can save human lives (gain frame), they were less likely to experience psychological negativity and the feeling of being manipulated by the message. On the other hand, when they were told that not signing an organ donor card may result in a loss in lives (loss frame), they experienced a threat to their freedom, thus, greater resistance.

Also, Cohen (2007) conducted a series of studies examining the effect of gain and loss-framed messaging on an individual's willingness to sign an organ donor card. The results of the studies showed that for high-risk individuals, there was no difference in responses to loss- or gain-framed messages. Furthermore, people perceiving there was a low-risk responded better to loss-framed messages. Cohen (2010) also investigated the role of message framing on the personal decision of organ donation. The result revealed that low-risk individuals perceived more value in organ donation in the loss frame than they did in the gain frame. Moreover, Sun (2014) investigated whether the types of message framing (positive vs. negative) and the appeal types (rational vs. emotional) would have a different effect on individual's attitudes towards organ donation and intentions to donate. Further, under the theoretical framework of prospect theory, Quick, Kam, Morgan, Montero Liberoni, and Smith (2014) evaluated the effectiveness of organ donation gain frame (e.g. the positives associated with registering as an organ donor) and loss frame messages (e.g. the negatives associated with not signing an organ donor card).

Even though the PT reigned for several decades as the dominant descriptive model of decision-making under risks and ambiguity. The theory has critical limitations in describing individual behaviours, and it has come under serious question in recent years (Lewandowski, 2017). The hypothesised pattern of loss aversion and the importance of positively and negatively framed messaging in the prospect theory have been criticised by results of robust experimental tests in the literature on behavioural decision theory (Kahneman & Tversky, 2013b; Schoemaker, 2013). In addition, there is now general agreement that the theory allows violations of stochastic dominance, which is accommodated by a non-linear probability weighting function (Wakker, 2010). As a result, this could be too restrictive to capture the effect of important contextual factors on decision weighting. Another feature of the PT model that has been a subject of criticism is that the decision weights depend only on probability weights, and it does not rank corresponding outcomes among all possible outcomes of the lottery. Moreover, for empirical studies, the researchers often face great difficulty in defining and measuring the weighting function for ambiguity due to the need for the elicitation of subjective probabilities (Van De Kuilen & Wakker, 2011). The prospect theory has many degrees of freedom which may accommodate some evidence, but it

gives much weaker testable predictions unless some additional strong assumptions are imposed that replace the relaxed assumptions of the model (Lewandowski, 2017).

## 4 The Theory of Reasoned Action (TRA)

The Theory of Reasoned Action was initially developed by Fishbein and Ajzen (1975) and is commonly referred to as TRA. The goal of TRA is to explain the behaviours of volition, that is, behaviours that people perform because they deliberately decide to engage in a given behaviour after careful consideration of the implications of their actions. As such, TRA assumes two premises: (1) individuals are rational decision-makers who systematically evaluate available information and (2) individuals take account of the consequences of their actions prior to deciding whether to commit to a specific behaviour. Within the model, the concept 'reasoned action' is explicitly concerned with behaviour and the influence of two explanatory variables—attitude and subjective norm—to predict behavioural intent (Fishbein & Ajzen, 2011). Attitude to behaviour refers to an individual's willingness to impact the development of a particular orientation to behaviour (such as positive or negative). Subjective norm reflects the impact of social pressure from family, friends or significant others to perform the behaviour. An intention represents an individual's conscious decision to exert effort to enact a behaviour as influenced by attitude and subjective norm and is considered the single best predictor of that person's behaviour (Montano & Kasprzyk, 2015).

The TRA model depicts the interrelationships between attitudes, subjective norms and actual individual behaviour. The TRA maintains that a person's intention is the best and most proximal antecedent of their actual behaviour, and it is determined by two theoretically distinct dimensions (Fishbein & Ajzen, 1975). The strength of a person's intent is influenced by their attitudes (i.e. the positive or negative evaluation of performing the act) and subjective norms (i.e. the perceptions of social pressure to perform it). When a person has a positive attitude toward donating organs, as well as a positive subjective norm, they are more likely to become an organ donor and register their intentions. Several researchers have conducted meta-analyses, consistently finding large effect sizes in subjective norms and attitudes predictive power for intentions, and no less than moderate effect sizes in intentions' ability to predict actual behaviour (e.g. sign a donor card) (Anker, Feeley, & Kim, 2010; Feeley, 2007; Nijkamp, Hollestelle, Zeegers, van den Borne, & Reubsæet, 2008; Weber, Martin, & Corrigan, 2007).

In recognition of the attitude-behaviour discrepancy and the need for theoretically driven research in the organ donation context, several organ donation models have been developed. The TRA is constituted to be the main starting point and the most dominant theory that has been used in these existing models (Horton & Horton, 1990; Kopfman & Smith, 1996; Nijkamp et al., 2008). Horton and Horton (1991) were the first to propose a model of organ donation willingness to sign donor cards, which posited that attitudes toward donation were a product of knowledge and values



(e.g. altruism). Attitude, in turn, predicted willingness to donate and to sign a donor card. Their research demonstrated that the strongest predictors of organ donation willingness are knowledge and attitudes. In contrast, personal values were found to play a weaker role in predicting people's willingness toward donation.

Kopfman and Smith (1996) built on Horton and Horton's (1991) model, adding two variables: perceived social norms and fear of organ donation, which proposed that willingness to donate organs is influenced by attitude toward donation, fears, level of knowledge, subjective norms, and altruistic values. The social normative component was a concept drawn from the TRA, which is the perception that important people in a person's life, such as family or friends, would support a particular action (e.g. signing an organ donor card). The fear component of the model was measured by separating items previously used by Horton and Horton as part of the knowledge construct and assumes that some errors in factual knowledge about donation were coded as indications of fear, rather than a lack of knowledge (e.g. organ donation will result in extra expenses for the family). Horton and Horton's (1991) model was expanded by Radecki and Jaccard (1997) to include religious and cultural beliefs. This model proposed that attitude is influenced by five potential predictors: level of knowledge, religious, cultural, altruistic and normative beliefs. Attitude, in turn, influenced the willingness toward donation. Their study revealed that knowledge strongly predicts willingness to sign a donor card.

Feeley's (2007) model differentiated knowledge and donation-related beliefs and included personal characteristics (e.g. race and ethnicity) and other personality factors (e.g. self-esteem, anxiety, disgust sensitivity and death coping) as determinants of both attitudes toward donating and subjective norms. The model suggests that one's likeliness to become an organ donor can be predicted by one's behavioural intentions to sign an organ card or to communicate with family, which in turn, can be predicted (directly and indirectly) by one's attitudes toward donation, subjective norms, and knowledge. Also, the behavioural intentions toward donation were predicted either through the organ registry (i.e. sign donor card) or interpersonally (i.e. family discussion). The theoretical framework devised by Nijkamp et al. (2008) is based on TRA Fishbein and Ajzen (1975) and Radecki and Jaccard (1997). Beliefs about organ donation comprise an important component of the model. These include religious, cultural, knowledge, altruistic and normative beliefs. This model included some barriers toward donation, such as fear of death and the related fear of organ donation. These beliefs determine the attitude, subjective norms, and self-efficacy, which in turn predict the intention to donate organs or to sign donor cards.

While TRA is a well-referenced expectancy-value theory of behaviour, the model is not without criticism (Werner, 2004). Fishbein and Ajzen (2011) propose all variables—excepting attitude and subjective norm—have an indirect effect on behavioural intention and are likely to be mediated by these two variables. Researchers have questioned the sufficiency of attitude and subjective norm to fully explain behavioural intention, suggesting that this is a key weakness of TRA's ability to comprehensively represent deliberated decision-making impacting behavioural intention, and ultimately behavioural action. Thus, one long-standing criticism of the

reasoned action theoretical framework is that intention determinants are not always limited to attitudes and subjective norms (Pligt & Vries, 1998).

Additionally, the TRA has also been criticised for neglecting the importance of personal values and beliefs which, in real life, could be a determinant of a person's behaviour. Morgan, Stephenson, Harrison, Afifi, and Long (2008) contend that decision-making is not necessarily entirely rational or reasoned in nature, as decision-making processes are also strongly influenced by an individual's values or beliefs which, in turn, affect attitude formation and behavioural intention. Furthermore, while posthumous organ donation decision-making engages deliberated decision-making, the process results from a mix of rational and perceptual belief or value-based reasoning. As such, beliefs, defined as value concepts about desirable end states or behaviours, guide the selection or evaluation of behaviour and important function as the basis for behavioural decision-making.

Additionally, the TRA assumes that an individual's decision is intended, purposefully and in advance. Therefore, the theory does not cover behaviours that are not consciously considered, such as habitual actions and irrational decisions. Liska (1984) criticised the TRA for its assertion that behaviour is voluntarily controlled, which prevents the examination of behaviour that requires skills, capabilities, opportunities and the cooperation of significant others. This criticism is relevant to organ donation research that adopts the TRA to guide their model development. For example, some countries with an opt-in system such as Australia, an individual can consent to donate organs by signing an organ donor card and by expressing their decision to their family members, as they will be required to give consent after the person passes on. However, many people do not know how to register themselves, or they may not feel confident or capable to talk to their family members about their donation decision. Therefore, it is critical to examine the person's level of knowledge or control over donation decisions.

## 5 The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is an extension and complementary to the TRA. Ajzen (1985) developed the TPB and introduced perceived behaviour control (PBC) in order to rectify the shortcomings in the TRA. The construct of PBC was included to deal with situations in which individuals may not be in full control over the behaviour of interest (Ajzen, 1991). Behavioural intention alone could explain a few of the variations in the performed behaviour, thus, adding perceived behavioural control (PBC) can enhance the explanatory power of the theory. The theory assumes that an individual undertakes a rational, cognitive, systematic, evaluation of the information available to them before performing the behaviour (Ajzen & Manstead, 2007).

The TPB posits that a person's intention (i.e. readiness to act) is the most proximal determinant of their behaviour. According to the theory, behavioural intention reflects one's motivation to perform a particular act. Therefore, the stronger one's intention

to engage in a behaviour, the more likely it is to be carried out. Furthermore, human actions and behavioural intention can be understood as a cognitive representation of an individual who is ready to perform a given behaviour. It is also an indication of how hard the person is willing to try, of how much of an effort they are planning to exercise to perform the behaviour (Ajzen, 1991). The strength of a person's intention, in turn, is informed by their attitudes, subjective norm, and perceived behavioural control (i.e. perceived ease or difficulty to perform the behaviour). As a general rule, people will intend to engage in a behaviour if they have positive attitudes toward performing the behaviour, if they perceive normative pressure to do so and if they believe that they have a high level of control over performing the behaviour (Fishbein & Ajzen, 2011). However, the relative importance or weight of these three predictors of intentions and human behaviour is expected to vary across different behaviours and populations.

From the TPB perspective, attitude is the internal predisposition of an individual to evaluate performing a given behaviour as either favourable or unfavourable. Attitude is shaped and influenced by behavioural beliefs (i.e. which the individual believes will occur to adopt a certain behaviour), and consequences (i.e. positive or negative) in adopting this behaviour. These outcome expectancies of the behaviour are evaluated based on the person's positive or negative evaluation of these outcomes (i.e. advantages and disadvantages) (Fishbein & Ajzen, 2011). After assessing the behaviour as favourable or unfavourable, the subject automatically and simultaneously acquires an attitude toward the behaviour in question. As a result, an individual often creates positive attitudes toward certain behaviours associated with desirable outcomes but generates negative attitudes toward behaviours associated with undesirable consequences.

Following the TPB, subjective norm assesses the perceived social pressures or influence on an individual to perform or not to perform a given behaviour (Ajzen, 1991). Subjective norm implies individual thinking of the most important people in their life (i.e. certain people or groups) and then imagining whether that person's opinion about a certain behaviour would be negative or positive. Subjective norm is informed by one's normative beliefs concerning the likelihood that specific individuals or groups who are important to them would approve or disapprove of behaviour and the person's motivation to comply with these expectations. Therefore, the higher a person's perceptions of support from significant others to perform a behaviour, the stronger their intentions to perform the behaviour and subsequent behavioural action (Fishbein & Ajzen, 2011).

Perceived behavioural control (PBC) is the extent to which an individual perceives a behaviour as easy or difficult to perform, and it is conceptualised to encompass beliefs about self-efficacy and controllability (Ajzen, 2002). PBC can directly and independently predict the behaviour, especially when one's objective volitional control over the behaviour is low. People also form beliefs about their personal resources (i.e. relevant skills and knowledge) and other situational factors (i.e. obstacles and opportunities) that can help or impede their attempts to carry out a given behaviour. Given that actual control comprises internal or external factors (i.e. barriers or motivators) that can have an impact on behavioural performance (Ajzen, 1985). If people

have a sufficient degree of actual control over the expected behaviour (e.g. they have the required skills, abilities, cooperation by others), it results in a high intention to perform it when the opportunity arises. Conversely, the lack of requisite resources and facing serious obstacles can prevent people from acting on their intentions. Ajzen (2011) argues that the relationship between an individual's perception of control and behaviour may not be an accurate reflection of the state of control that a person has in reality (i.e. actual control). PBC can be measured either directly (i.e. asking direct questions about the capability to perform a behaviour) or indirectly (i.e. an individual belief about their ability to deal with certain preventing or facilitating factors). Table 1 summarises the key theories that have been used in organ donation studies.

**Table 1** Theoretical insights into organ donation studies

Key theories	Derived from	Definitions	Key takeaways	Illustrative studies
The Social Cognitive Theory (SCT)	Bandura (1977)	The theory based on the idea that people learn by observing others with the environment, behaviour, and cognition acting as primary factors that influence development in a reciprocal triadic relationship	In the SCT, outcome expectancies are important when people intend to take action (Luszczynska & Schwarzer, 2005). In addition, individuals' beliefs in their own self-efficacy influence whether or not they will reproduce an observed behaviour (Bandura, 2010)	Reubsamet et al. (2003), Smits, Van Den Borne, Dijker, and Ryckman (2005), Reubsamet et al. (2005), Wu (2009), Wu et al. (2013), and Quick et al. (2013)
Prospect Theory (PT)	Tversky and Kahneman (1981)	The theory assumes that losses and gains are valued differently. Therefore, individuals make decisions based on perceived gains instead of perceived losses	Individuals give more weight to losses than they do to gains. People often chose perceived gains because losses cause a greater emotional impact (Kahneman & Tversky, 2013a)	Reinhart et al. (2007), Cohen (2007, 2010), Sun (2014), and Quick et al. (2014)

(continued)

**Table 1** (continued)

Key theories	Derived from	Definitions	Key takeaways	Illustrative studies
Theory of Reasoned Action (TRA)	Fishbein and Ajzen (1975)	The theory suggests that a person’s behaviour is determined by their intention to perform the behaviour and that this intention is, in turn, a function of their attitude toward the behaviour and subjective norms (Fishbein & Ajzen, 1975)	It is suggested that individuals are rational decision-makers who systematically evaluate available information and individuals take account of the consequences of their actions prior to deciding whether to commit to a specific behaviour (Fishbein & Ajzen, 2011)	Hyde and White (2009a), Wu and Lu (2011), O’Carroll, Foster, McGeechan, Sandford, and Ferguson (2011), Falomir-Pichastor, Berent, and Pereira (2013), Jeong and Park (2015), and Quick et al. (2016)
The Theory of Planned Behaviour (TPB)	Ajzen (1985)	The theory state that attitude toward behaviour, subjective norms, and perceived behavioural control, together shape an individual’s behavioural intentions and behaviours (Ajzen, 1991)	Human actions and behavioural intention can be understood as a cognitive representation of an individual who is ready to perform a given behaviour. It is also an indication of how hard the person is willing to try, of how much of an effort they are planning to exercise to perform the behaviour (Fishbein & Ajzen, 2011)	Park, Smith, and Yun (2009), Hyde and White (2010), O’Carroll, Ferguson, Hayes, and Shepherd (2012), Rocheleau (2013), Hyde, Knowles, and White (2013), Pauli, Basso, and Ruffatto (2017), and Ghaffari et al. (2018)

Source Author’s own table

## 6 Conclusion

After reviewing the current literature and theoretical frameworks across a broad scope of domains, core gaps in the research are identified and, thus, areas for exploration in this chapter are highlighted. Based on the review, it was found that most of the theoretically-driven studies have typically relied on a single theory such as the TRA

or the TPB and have included a limited number of predictors into these models. Neither of the existing models, consequently, integrates the current knowledge from the rich literature on organ donation, which limits the scope of what can be learned and reduces the explanatory power achieved within an investigation (Quick et al., 2016). Even though some researchers have used the TPB to guide their research, they have not provided an assessment of the full model. The current systematic literature review shows that only a few organ donation studies have applied systematically the standard TPB constructs to predict people's intention towards donation (e.g. Bae, 2008; Bae & Kang, 2008; Godin, Bélanger-Gravel, Gagné, & Blondeau, 2008; Hyde & White, 2009b; Park & Smith, 2007; Park et al., 2009). For example, Siegel, Alvaro, Lac, Crano, and Dominick (2008) assessed subjective norm by measuring people's communicating behaviour with family (e.g. having discussed the donation wishes previously with family) and knowing an organ donor personally. In addition, Morgan et al. (2008) propose a model that assumes that attitude and subjective norm directly predict people's behaviour, therefore, their model did not include intention as the most proximal antecedent of behaviour. To date, there is variation in construct measurement, and it is not consistent with the core TPB specifications as specified by Ajzen (1991). Therefore, there is a need for a consistent application of the TPB using standardised measurements of core constructs in organ donation context.

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# An Entrepreneurial Case Study from Australia



## Should I Work for Myself or Someone Else? An Entrepreneurial Case Study from Australia

**Marthin Nanere, Elaine Plant, Philip Trebilcock, Marcus Pattinama  
and Mokhamad Arwani**

**Abstract** Scholars have long sought to address the challenging question as to why some individuals start their own business and engage in entrepreneurship, while others do not. Yet it is this entrepreneurship that plays a vital part in social and economic development. It is not surprising then that research has focused on determining what leads to entrepreneurial intention. This article explores why some intend to become entrepreneurs, while others are reluctant. Ajzen's Theory of Planned Behaviour was employed in order to decipher the intentional behaviours. A convenient sample of 467 university students were surveyed. Findings suggest (not surprisingly) that business students have a higher propensity to create their own businesses than do non-business students. Males are more likely to create their own business, as do international students. Using Factor Analysis and Structural Equation Modelling, findings indicate that behavioural, normative and perceived control beliefs have a significant positive effect on the intention to become an entrepreneur. Perceived Control Beliefs have the highest impact on intention, followed by Behavioural Beliefs and Normative Beliefs, respectively. Some practical implications and directions for future research are discussed.

**Keywords** Entrepreneurship · Theory of Planned Behaviour · Behavioural belief · Normative belief · Perceived control beliefs

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# 1 Introduction

It can be argued that the future of an economy depends on an emerging generation of entrepreneurs with vision, ideas and resolve to make these ideas a reality in the pursuit of wealth and job creation. Historically, it has been the role of governments to encourage and support entrepreneurs in the pursuit of start-up businesses. Yet the university campus is perhaps one of the most obvious places to inspire entrepreneurship. The challenge faced by many universities is that official graduate employment figures fail to indicate how many graduates have gone on to start their own businesses. Hence the success or otherwise of student-initiated entrepreneurial endeavours is often not clearly understood.

Entrepreneurship, by its very nature, contributes to ongoing transformation of the global economy (Nishimura & Tristan, 2011). Moreover, entrepreneurship also contributes to social benefits as it aids in self-fulfillment and the consideration of social issues in society (European Commission, 2003). Becoming an entrepreneur requires conscious decision making, since creating a new enterprise involves considerable effort in time, involvement, planning and resources (Moriani, Gorgievski, Laguna, Stephan, & Zarafshani, 2012). Due to the increasing role of entrepreneurship and policy initiatives to promote entrepreneurial careers, academic research has often focused on detecting the determinants of entrepreneurial intentions in order to identify why some individuals become entrepreneurs, yet others do not. Because of a competitive landscape with limited opportunities for sought after jobs, countries such as Australia have limited options but to be increasingly reliant on entrepreneurship.

This article adds to career literature by exploring university student intentions in becoming an entrepreneur. This research draws on the Theory of Planned Behaviour (TPB) as one of the key established theories in predicting career intentions (Li, Wu, & Wu, 2008; Liñán & Chen, 2009).

The decision to become an entrepreneur is a deliberate and conscious decision, requiring time and considerable planning. An entrepreneurial career decision can, therefore, be considered (within the constructs of TPB) to be a type of planned behaviour. In addition, entrepreneurial intentions can also be viewed as a determining factor in performing entrepreneurial behaviour.

This research employs the TPB developed by Ajzen (1991). This theory has been successfully applied in a wide variety of fields (van Gelderen et al., 2008). It takes into account personal and social factors in order to explain intentional behaviours.

This article is structured into five sections. Section 1 provides a brief background and aim of the article. Section 2 discusses the theory and hypotheses. Research method will be discussed in Sect. 3. Section 4 provides findings, and finally, the last section provides conclusions and recommendations.

## 2 Background Theory and Hypotheses

According to Krueger, Reily, and Carsrud (2000), the choice and decision to be an entrepreneur could be considered as voluntary and conscious. Thus, analysing how that decision is made seems to be worth exploring. Since entrepreneurship is a long time process, entrepreneurial intention can be considered the first step. According to Ajzen (1991), intention is considered the best predictor of behaviour. Entrepreneurial intention (EI) is defined as the conscious state of mind that precedes action and directs attention toward a goal such as starting a new business (Laguna, Moriano, Roznowki, & Gómez, 2008; Liñán & Chen, 2009).

According to the TPB, there are three key components that predict behavioural intention directly—attitudes towards the behaviour, subjective norms, and perceived behavioural control.

### 2.1 Attitude Towards Behaviour

The attitude toward the behaviour is defined as an individual's overall evaluation of the behaviour (Ajzen, 1991). In other words, the attitude is the degree to which a person holds a positive or negative evaluation of being an entrepreneur. Douglas and Shepherd (2002) suggest that strong attitude individuals with attitudinal tendencies towards financial reward, sense of accomplishment, independence, competitiveness and agents of change have been considered to be prospective entrepreneurs.

In light of the relevance of attitude in predicting EI, the following hypothesis is established:

**Hypothesis 1** Entrepreneurial intention positively relates to positive attitudes toward entrepreneurship. In other words, the stronger the attitude towards entrepreneurship, the higher will be the level of entrepreneurial intention.

### 2.2 Subjective Norm (SN)

Generally speaking, SN measures the perceived social pressure to perform or not perform entrepreneurial behaviours. Social pressure may include significant people who would approve or not approve of the decision to become an entrepreneur (Ajzen, 2002).

**Hypothesis 2** Normative beliefs positively influence entrepreneurial intention. In other words, the subjective norm is positively associated with entrepreneurial intention in that the approval received from significant people, the higher the intention to become entrepreneur.

### 2.3 *Perceived Behavioural Control (PBC)*

PBC refers to the perception of how difficult and easy to become an entrepreneur. This is a concept almost similar to self-efficacy (Bandura, 1982). An individual's behaviour will correspond to his/her's perceptions and beliefs about their own capability to perform the behaviour. Accordingly, the following hypothesis is developed:

**Hypothesis 3** Perceived behavioural control is positively associated with entrepreneurial intention. The more a person feels confident with his/her own capability, the higher the intention to become an entrepreneur.

## 3 Research Method

### 3.1 *Sample*

A non-probability sampling method was used to collect the data from 467 university students who participated in the study. A quantitative approach using a self-administered questionnaire was employed. Participation in the study was voluntary.

### 3.2 *Questionnaire*

Following Ajzen (2002) and Moriano (2005), the Entrepreneurial Intention Questionnaire (EIQ) consists of four subscales: attitudes toward entrepreneurship, subjective norms, PBC, and entrepreneurial intention. All items in the questionnaire were measured on a 7-point Likert-scale (from 1 to 7).

Two sets of six items assessing expected outcomes of an entrepreneur career and desirability of these outcomes were used to measure attitude toward entrepreneurship (Cronbach's alpha for the current total sample was 0.841). Outcome expectations were multiplied by their desirability and then divided by 10 to obtain scale average scores. Higher scores reflected more positive attitudes toward an entrepreneurial career.

Two sets consisting of three items each measuring how important persons would view their entrepreneurial career and motivation to comply with the important persons were used to measure subjective norms. The Cronbach's alpha for the current total sample was 0.768. The multiplication of these two sets provided average scale scores. Higher scores indicate greater subjective norms. For PBC, respondents were asked to rate their level of agreement towards statements about their feeling of capacity to become an entrepreneur. High scores indicate high entrepreneurial perceived

behavioural control (PBC). Entrepreneurial intention was measured using a 4-item scale, with a Cronbach alpha of 0.852, in which each item measured the likelihood of a student to become an entrepreneur. Higher scores suggest that there is a high entrepreneurial intention.

## 4 Findings

Survey respondents were relatively evenly distributed with 45% male and 55% female. The majority of these students (80.9%) were between 20 and 29 years of age. This reflects the average age of students. Approximately 9% of the respondents were under age 20. 8.6% were between 30 and 39 as seen in the graph below.

32.1% of all respondents work for a private company, 7.5% for a public institution and 4.3% for a non-profit organisation. The majority of students, however, (56.1%) do not work in these fields.

The respondents had mostly an international background. 65.2% were international students, only 34.8% were domestic students. 62.9% of the student cohort were postgraduate students. Only 37.1% were undergraduate students.

Creating a new company (being an entrepreneur) and developing a career in a private company is more interesting for the students than working in a non-profit organisation or as a civil servant for the government. Referring to the first two career options, students answered neutral (being neither interested nor uninterested), whereas the students indicated that the last two career options are interesting for them.

When asked 'indicate your intention to choose the following career options', 23.1% were extremely interested in becoming an entrepreneur, 20.3% were very interested, 12.8% interested and 19.5% neutral. However, the average was 4.72 on a 1–7 scale as indicated below.

The respondents consider independence (to be my own boss), creativity and innovation and facing new challenges as very probable when creating their own business. Obtaining high incomes was strongly desired (average 5.72), yet students evaluate it slightly less probable (average 5.36) when asked to create a new company or become an entrepreneur. Economic uncertainty is less desirable (average 3.99) to students, yet but students evaluate it as more probable (average 5.21) when asked to become an entrepreneur.

Concerning the perceived behavioural control (how effective the students would be in completing essential tasks concerning entrepreneurship), the average student reported that they could complete these tasks effectively, or strongly effectively. For instance, the average student would be strongly effective in defining the business idea and strategy of the company (average 4.66).

By employing an independent samples *t*-test, the differences between the means of two unrelated groups of a nominal variable on the dependent variable (interval or ratio scale) can be tested. In the following, the dependent variable is the item 'With what probability do you consider that you could create your own business the present to five years' time?' Differences between the means for that dependent variable will be

tested for other groups including gender, major (business or non-business), status of student (international or domestic) and study status (undergraduate or postgraduate).

Males ( $N = 210$ ) were more likely to consider creating their own business from the present to five years' time,  $M = 4.95$  ( $SD = 1.67$ ). By comparison, females ( $N = 257$ ) were less likely,  $M = 4.12$  ( $SD = 1.79$ ). To test the hypothesis that males and females were significantly different statistically, an independent samples  $t$ -test was performed. Additionally, the assumption of homogeneity of variances was tested and satisfied via Levene's  $F$  test,  $F(465) = 2.83$ ,  $p = 0.093$ . The independent samples  $t$ -test indicated a statistically significant effect,  $t(465) = 5.16$ ,  $p = 0.000$ . Thus, it was confirmed that males were more likely to consider creating their own business than females.

Business students ( $N = 320$ ) were more likely to consider creating their own business in the next five years,  $M = 4.71$  ( $SD = 1.69$ ). Perhaps unsurprisingly, non-business students ( $N = 147$ ) were less likely to consider creating their own business in the following five years,  $M = 4.02$  ( $SD = 1.90$ ). To test the hypothesis that the business and non-business students were indeed less likely to consider creating their own business, an independent samples  $t$ -test was performed. The assumption of homogeneity of variances was tested and not satisfied via Levene's  $F$  test,  $F(465) = 5.31$ ,  $p = 0.022$ . The independent samples  $t$ -test indicated a statistically significant effect,  $t(255.92) = 3.79$ ,  $p = 0.000$ . Therefore, business students were statistically more likely to consider creating their own business than were non-business students.

International students ( $N = 304$ ) were seen to be more likely to consider creating their own business in the next five years,  $M = 4.75$  ( $SD = 1.63$ ). By comparison, domestic students ( $N = 162$ ) were less likely,  $M = 4.00$  ( $SD = 1.96$ ). To test the hypothesis that the international and domestic students were associated with statistically significantly different mean probability to consider creating own business within five years, an independent samples  $t$ -test was performed. Additionally, the assumption of homogeneity of variances was tested and not satisfied via Levene's  $F$  test,  $F(464) = 13.03$ ,  $p = 0.000$ . The independent samples  $t$ -test indicated a statistically significant effect,  $t(280.91) = 4.17$ ,  $p = 0.000$ . Thus, it can be confirmed that international students were statistically more likely to consider creating their own business than were domestic students.

Postgraduate students ( $N = 293$ )  $M = 4.60$  ( $SD = 1.74$ ) were more likely to consider creating their own business within five years, compared to undergraduates  $M = 4.29$  ( $SD = 1.85$ ). To test the hypothesis that the postgraduate and undergraduate students were statistically significantly different, an independent samples  $t$ -test was performed. The assumption of homogeneity of variances was tested and not satisfied via Levene's  $F$  test,  $F(464) = 1.90$ ,  $p = 0.169$ . The independent samples  $t$ -test was not associated with a statistically significant effect,  $t(343.89) = 1.76$ ,  $p = 0.080$ . Thus, both the postgraduate students and the undergraduate students were not associated with a probability to consider creating their own business within five years (Tables 1 and 2; Fig. 1).



**Table 1** Factor analysis and internal consistency results for model constructs

Variables	Factor items	Loading	
Perceived control beliefs	Define your business idea and strategy of your company	0.703	
	Write your business plan	0.818	
	Complete the necessary and administrative and bureaucratic work to create your own business	0.758	
	Develop and maintain favourable relationships with potential investors and banks	0.809	
	See new market opportunities for new products/services	0.787	
	Develop relationships with key people who are connected to capital sources	0.801	
	Tolerate unexpected changes in business	0.642	
	Identify potential sources of funding	0.754	
	Design products or services that solve current problems	0.659	
	Persist in the face of adversity	0.632	
	% of total variance explained = 36.73		
	Cronbach's alpha = 0.914		
Behavioural beliefs	Facing new challenges	0.754	
	Creating new jobs	0.647	
	To be creative and innovative	0.868	
	Obtaining high income	0.710	
	Taking calculated risks	0.578	
	To be my own boss (independence)	0.763	
	% of total variance explained = 47.17		
	Cronbach's alpha = 0.841		
Normative beliefs	My closest family members think that I should pursue a career as an entrepreneur	0.603	
	My closest friends think that I should pursue a career as an entrepreneur	0.881	
	My colleagues or classmates think that I should pursue a career as an entrepreneur	0.863	
	% of total variance explained = 61.31		
	Cronbach's alpha = 0.768		
Intentions to become an entrepreneur	Do you think that in the future you will create your own company?	0.773	
	If you had the opportunity to choose freely the career to follow, what would you prefer?	0.859	
	Considering your actual situation and limitations towards your options (e.g. lack of money), indicate which career is more probable to be chosen?	0.796	

(continued)

**Table 1** (continued)

Variables	Factor items	Loading
	With what probability do you consider to create your own business from present to five years time?	0.717
	% of total variance explained = 55.49	
	Cronbach's alpha = 0.852	

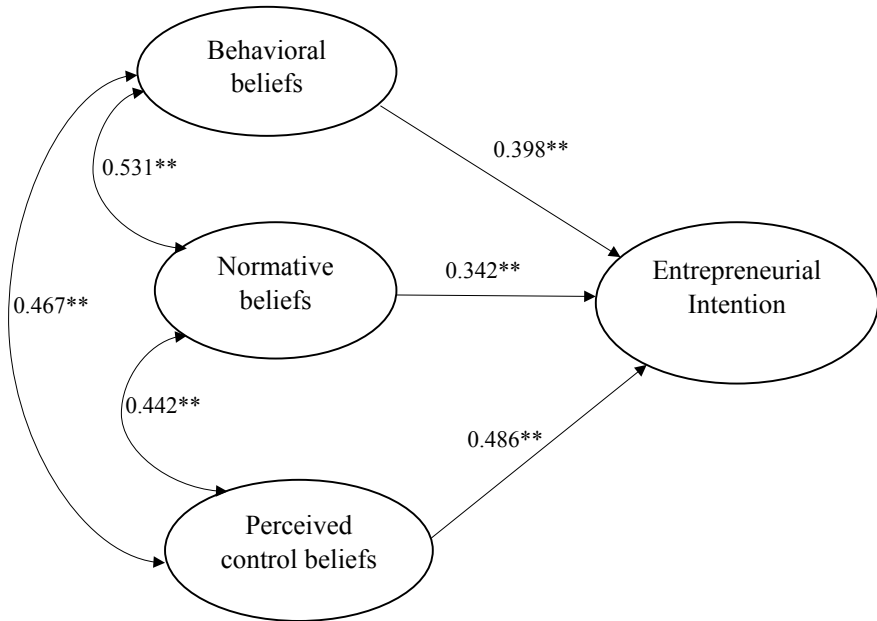
Source Author's own table

**Table 2** Estimated regression coefficients of SEM

Variable	Estimate	S.E	C.R
Perceived control beliefs	0.486**	0.096	5.058
Behavioural beliefs	0.398**	0.079	5.008
Normative beliefs	0.342**	0.062	5.526

Source Author's own table

\*\* $p < 0.01$



**Fig. 1** Path diagram for the structural model for entrepreneurship. Notes \*\* $p < 0.001$ ; \* $p < 0.05$ ;  $n = 467$ . Source Author's own figure

## 5 Conclusions and Recommendations

The findings of this study suggest that behavioural, normative and perceived control beliefs are significant predictors of EI for university students. Specifically, self-efficacy (perceived control beliefs) is found to carry the most effect on EI compared to behavioural and normative beliefs. This emphasises the importance of cultivating the perceived control belief and the right attitude towards entrepreneurship among university students by providing them the appropriate knowledge and experience about entrepreneurship. When students have favourable perceived control belief and attitude, they were observed to most likely demonstrate EI.

Some practical implications can be drawn from this research. Because of the close association of attitudes and perceived control belief with intentions in our sample, educational programs should pay particular attention to positively influencing students' attitudes toward entrepreneurial activity and increasing their perceived control belief for creating new enterprises. An example of activities such as learning experiences may include establishing contacts between students and successful entrepreneurs.

It is recommended that academics work with successful entrepreneurs so as to inculcate the university student's knowledge and actual entrepreneurial experience. This may enhance favourable student attitude and intention towards entrepreneurship, and finally, transform such intention into actual future behaviour.

This study did not look at the effectiveness of entrepreneurial education. This can be a possible suggestion for future research by looking at the impact of entrepreneurial education on university students.

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# Australian Startup's: Case Study Examples



Esha Thukral and Vanessa Ratten

**Abstract** There has been an increasing amount of interest in startups due to their ability to change the economic and social conditions of a country. Australia as a country is investing more effort into startups as a way to increase international competitiveness. The aim of this chapter is to discuss some successful startups in a range of sectors including the beauty, clothing and education sector. By providing a case study analysis of each company, it can help to provide feedback about lessons learnt and how to improve in the future. Conclusions are stated that highlight the importance of developing a startup culture.

**Keywords** Australia · Startups

## 1 Introduction

There is a global drive to encourage startups as entrepreneurship or startups are indubitably considered a reflection of economic prosperity and development (Ratten, 2017). Australia now stands fifth among the startup-friendly countries in the world, according to the StartupBlink Startup Ecosystem Rankings 2019. From 2017 to 2019 Australia has taken a spectacular leap forward from its 11th position to 5th position and is, therefore, becoming one of the most attractive places to launch a startup. Within Australia, Sydney has acquired the 19th position whereas Melbourne and Brisbane were ranked 35th and 87th, respectively. The StartupBlink ranking parameters include an analysis of the kind of business environment prevails, together with the number of startups and the quality of those startups experienced by a particular city or country (Palmer-Derrien, 2019).

This chapter will provide case study summaries of the companies Aesop, T2, Emma & Toms, Chaiwalli, Afterpay, Employment Hero and Lorna Jane. Thereby

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© Springer Nature Switzerland AG 2020  
V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_10](https://doi.org/10.1007/978-3-030-35415-2_10)

providing an analysis of different types of industry structures and how they influence the start-up culture in a country. As Australia is a large geographic country but with a small population located mostly in the eastern coastal areas, it is important to focus on the role of culture in developing an entrepreneurial spirit. Each of the case studies provides an overview of the reason why the startup was founded then how it has grown. Thereby, providing an interesting overview of the most successful startups in Australia. The next section will discuss Aesop, one of the most recognizable startups that have received exponential success in the international marketplace.

## 2 Aesop

Dennis Paphitis founded Aesop in 1987, Melbourne Australia, today is known as one of the successful luxury skincare brand, worldwide. Owing to his vision, Dennis Paphitis started out initially as a hairdressing salon and soon began working with a chemist in Los Angeles to create a haircare range using essential oils for his salon. After some initial success in the hair care range, he started creating a plethora of skincare products encompassing various kinds of creams, serums, lotions, etc. to be able to target upmarket environmentally and socially conscious consumers. However, the overall success of the business was a gradual process and accelerated only from 2003 onwards when Michael O'Keefe took over as the chief executive of Aesop and thereafter the brand decided to go global and even changed their business model from a "product-centric to retail-centric" while retaining the core philosophy of "*caring well for the customers*" and focusing on the quality of the products. From a humble beginning the brand now employs more than 1500 staff with an approximately 40% increase in the turnover every year. In the coming decade O'Keefe is planning to use the company's digital platform not only to enhance the sale of the products and reach the \$1 billion target by 2025 but also to reinvent its business model again to include "*engagement centric model*" to be able to create a strong camaraderie with its customers (Powell, 2016).

Official Website: Aesop

<https://www.aesop.com/au/r/about>.

## 3 T2

Maryanne Shearer had experience in collaborating with people and brand development and Jan O'Connor having an architecture degree and an experience in-store designs cofounded T2 in 1996 at Brunswick Street Fitzroy, Melbourne. Both of them channeled their respective expertise and focused on brand development, product design and packaging thereby making it quirky, feminine and fun as previously tea was more of gentlemen's experience. They not only honoured and retained the age-old traditions associated with tea but also created a unique retail experience for

the customers (Shearer, 2016). Needless to say it was a bold move on the part of Maryanne Shearer and Jan O' Connor as the coffee culture has always dominated Melbourne market. The turning point for T2 came in 2013, when Unilever acquired T2, which was Nicole Sparshott's biggest achievement, and decided to share this local business with humble beginnings with the rest of the world. In order to do this she used some of the Lean strategy principles incorporating the idea of "Fail fast and learn fast" while reinvigorating the brand and bringing T2 closer to the global customer. From the local presence, T2 has now successfully sailed into the hearts of tea lovers across the globe including the UK, U.S.A and Asia (Page, 2019). CEO Nicole Sparshott is now investing in technology in order to ensure greater diversity as well as sustainability in the business by experimenting with new tea flavours and creating varied tea options suiting to accommodate the liking of a number of customers. The business will also be focusing on to optimizing their distribution channel to deliver the products to its customers in a sustainable manner (CEO Magazine, 2018).

Official Website: T2

<https://www.t2tea.com/en/au/Home>.

## 4 Emma & Toms

An Australian venture taking pride in its business philosophy to "Look After Yourself", and staying committed to providing healthy whole fruit products with minimal processing since 2004. Both Emma Welsh and Tom Griffith were childhood friends and cofounded Emma and Tom's thus converting their long-standing friendship into business partnership (The Australian Business Executive, 2016a). Both Emma and Tom have a diverse portfolio. Emma has a Bachelor in Agricultural Science and was a grain trader at Cargill thereafter she pursued her MBA from France and eventually returned to Australia and started working as a head of consumer marketing for NAB (National Australian Bank). Tom too holds a Bachelor of Commerce degree from the University of Melbourne and is a Chartered Accountant together with a Fellowship of Finance. He has work experience in business, investment banking, and finance and innovation roles both locally and globally. Tom was forced to leave his role as a CFO in London when it became financially unfeasible. Thereafter he wasn't sure of his next move until he encountered a business opportunity. While on a skiing holiday he came across a gap in the Australian market for healthy beverages when he was looking for healthy drinks to replenish his lost energy and fell in love with the concept. Soon after Tom realized the gap in the market he approached Emma with the idea, thereafter the duo got together and began working on the venture idea (The Australian Business Executive, 2016b). They spent 12 months formalizing their idea and developing the product, it was a gradual process, encompassing building their distributor base, creating recipes, etc. At one stage they even offered 12,000 free bottles to participants at a cycling event epitomizing their focus on targeting the customers and creating a strong brand identity amongst the community. Both Emma and Tom are aware that in order to survive in the competitive market they need to stay

focused and optimistic in every situation and continuously innovate to survive. With this idea in mind and staying true to its mission that is “*People are happier when they are healthy*” they have built a strong customer base of over 3000 independent retailers with international expansion already in work. Their brand has evolved to include a ‘life bar’ range and natural ice tea and even milk products. They both have leveraged their respective experiences to help grow the brand into what it is today.

Official Website: Emma & Toms

<https://emmaandtom.com/pages/about-us>.

## 5 Chaiwalli

26-year-old Uppma Virdi of Indian origin has turned her childhood liking and passion for Indian tea into a successful business venture in Sydney, Australia. She inherited this passion from her grandfather who was an Ayurvedic doctor by profession specializing in herbs and spices. She learnt the art of Ayurvedic tea from him and therefore drew her inspiration for starting a tea venture from him. Her keenness to share this long-standing Indian Ayurveda tea tradition with the world kicked off her entrepreneurial spirit and she, therefore, started her tea business on a part-time basis while working at a law firm. Uppma prepared the tea blends using Ayurveda knowledge, which she had learned from her grandfather and shared the first few packets with her friends and family. She then with the help of digital platform created her online store and started wholesaling to some of the local stores. She soon recognized the power of digital platform and social media marketing as it helped her business relations grow speedily. She now has a dedicated digital platform for worldwide retail purchases also. In order to satisfy the inquisitiveness of the Australians she also runs the “The art of Chai” workshops, an exploration journey to the origins of the Indian Ayurveda tea. However little did she know then that her small part-time startup business will lead her into achieving the Business Woman of the year in 2016 by Indian Australian Business and Community Awards (IABCA) (Kainth, 2016).

Official Website: Chaiwalli

<https://chaiwalli.com.au>.

## 6 Afterpay

Nick Molnar a 28-year-old millennial has recently turned Afterpay a Sydney based company into a billion-dollar business. He cofounded Afterpay in 2014 with Anthony Eisen who was the chief investment officer at Guinness Peat Group. Afterpay was created using Layaway which is a decades-old tradition of financing but usually at a high rate of interest thus making it exorbitant and uneconomical. However, Nick Molnar has given a millennial twist to this decade-old practice and transformed it into a booming business. Afterpay is built to provide an inexpensive solution to its



customers where consumers can pay for items in four interest-free installments in case a consumer misses the payment a late fee are charged, however, the late fees are capped at 25% of the total cost of an item. The bulk of their revenue comes from charging retailers for every transaction to offer this unique customer-friendly service. Average customers of Afterpay are 33 years old and most of them are women. Afterpay now has approximately 15,000 retailers and nearly 2 million customers within its business ambit. In 2016 Nick Molnar took Afterpay public and raised nearly \$25 million (Kauflin, 2018). Nick Molnar has now stepped down as the CEO and will be taking over the role of global chief revenue officer with the aim of focusing on global market whereas Anthony Eisen will be replacing Nick Molnar as CEO of the company (Shapiro, 2019).

Official Website: Afterpay

<https://www.afterpay.com/en-AU/index>.

## 7 Employment Hero

Ben Thompson and Dave Tong cofounded Employment Hero in 2014 with a mission to “make employment easier and more rewarding for everyone” which is to help small and medium entrepreneurs or businesses in Australia to manage human resource functions efficiently. Since then this 5-year-old emerging Australian business has focused on empowering employers with the right tools for people’s management. Employment Hero tools include data collection, timesheets, payroll, rostering, etc. The business is headquartered in Sydney, Australia and has regional offices in Brisbane, Perth as well as Melbourne. Ben Thomson identified the gap when he noticed that approximately 97% of employers employ less than 200 employees and do not have access to proper tools to manage human resource functions and thus realised the true market potential in Australia. Employment hero now has approximately 4000 businesses under its ambit managing nearly 150,000 employees, to meet this rapid rise in business, Employment Hero will increase its workforce from 134 to 162 by the end of this year. Recently, Employment Hero has managed to raise \$22 million funding, from, One Ventures and Air Tree Ventures, to venture into the international markets namely New Zealand, South East Asia, Ireland as well as U.K (Knowles, 2019).

Official Website: Employment Hero

<https://employmenthero.com/about-us/>.

## 8 Lorna Jane

Lorna Jane Clarkson is the cofounder, CEO as well as the face of her fitness brand. It was founded in the year 1990 in Brisbane, Australia with her husband Bill Clarkson. Since then she has revolutionised the women’s fitness apparel. She started her career

as a fitness instructor who used to love designing and sewing her own clothes. Seeing her lovely clothes designs, her clients soon began queuing to place orders for fitness apparels. And hence came the turning point in her life, realising the persistent demand for her sartorial designs from her clients she decided to start designing and sewing clothes full time. That's when Lorna Jane's fitness apparel brand was born. Lorna Jane now has a sizeable brick and mortar presence in Australia with 134 stores. Lorna Jane is not only limited to Australian market but has its extensive presence across the globe namely in New Zealand, U.S.A, U.K, Europe, U.A.E, etc. with approximately 250 + stores (Lorna Jane, 2018). The brand stands by the philosophy of "Move, Nourish, and Believe", in order to transform the way women feel and think about getting active. Whilst standing true to its philosophy the company not only designs clothes with meticulous care but also publishes a 135-page monthly magazine on healthy living in Australia. According to Euromonitor, the company in Australia has the third-largest share in the sportswear market just behind Nike and Adidas. The company is known for selling fashionable sweat pants, leggings, sports bra, t-shirts, etc. at an average price of \$US75. The brand offers approximately 70–100 new styles every month (Peterson, 2014).

Official Website: Lorna Jane

<https://www.lornajane.com.au/ourbrand>.

## 9 Conclusion

In Australia, startups are an essential part of business life as they contribute new ideas to society. This chapter has focused on some of the most well-known startups that have risen to become global powerhouses in their industry. By highlighting the growth pattern of each startup this chapter contributes to a better understanding of the Australian startup scene.

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# **Correction to: Innovativeness and Competitiveness of Polish Service Enterprises Under the Conditions of Market Liberalization in the Central and Eastern Europe**



**Anna Dąbrowska and Adrian Lubowiecki-Vikuk**

**Correction to:**  
**Chapter “Innovativeness and Competitiveness of Polish Service Enterprises Under the Conditions of Market Liberalization in the Central and Eastern Europe” in: V. Ratten (ed.), *Entrepreneurship and Organizational Change*, Contributions to Management Science,**  
[https://doi.org/10.1007/978-3-030-35415-2\\_2](https://doi.org/10.1007/978-3-030-35415-2_2)

The original version of the chapter was published without the grant number. The chapter and book have been updated with the changes.

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The updated version of this chapter can be found at  
[https://doi.org/10.1007/978-3-030-35415-2\\_2](https://doi.org/10.1007/978-3-030-35415-2_2)

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V. Ratten (ed.), *Entrepreneurship and Organizational Change*,  
Contributions to Management Science,  
[https://doi.org/10.1007/978-3-030-35415-2\\_11](https://doi.org/10.1007/978-3-030-35415-2_11)