Intellectual evolution of social innovation: A bibliometric analysis and avenues for future research trends

Abstract:

Despite the fact that the concept of *social innovation* is extensively employed by scholars and practitioners, yet the conceptualisation and the research structure remained fragmented and scattered, because no rigorous attempt has been made to understand the core concept of *social innovation*. The notion of social innovation is multi-faceted and multi-disciplinary fluctuating from public-policy to environmental sustainability; which makes an investigation of the concept essential for business-to-business practitioners and scholars. By processing 370 publications from a sample of 125 journals and books with a total of 2941 citations, the authors unpack/unfold the intellectual foundation of *social innovation* in business and management domains by performing four bibliometric analyses and they evaluate the research domain qualitatively (1970-2019). By using co-citation, network visualisation through co-occurrence data, multi-dimensional scaling, and hierarchical cluster analysis, this research sheds light to the intellectual structure of social innovation including social value, economic value, societal impact, and bifocal innovations. This research reveals the key research clusters embodied by social innovation foundation. The present study identifies four important components for the future avenues of social innovation (i.e. opportunity, innovation practice, opportunity exploiter, value), and proposes a potential research framework to the researchers and practitioners, hoping to provide insights on social innovation.

Keywords: Social innovation; intellectual structure; knowledge development; bibliometrics.

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1. Introduction

The concept of *social innovation* diverges from other innovation concepts as its root lies in fulfilling a social need or solving a social problem (Mulgan et al., 2007; van Wijk et al., 2019). With more concrete terms it refers to "innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly diffused through organizations whose primary purposes are social" (Mulgan, 2006, p. 146); it has thus been regarded as a triggering concept for entrepreneurs, companies and organisations aiming "for successful innovation and change" (Dawson and Daniel, 2010, p. 11). The reason behind the growing interest in social innovation in the fields of business and management has various dimensions, but one of the basic interpretations for the growing attention is the increasing discontent of entrepreneurs and organisations towards the solutions of the social problems, where organisations are eager to take initiatives with more potential innovative solutions for the greater good (Caroli et al., 2018; Mirvis et al.; 2016). This could be seen as the downturn of the profit dominant logic of organisations, where a sustainable evolution of social innovation can be expected from both academic and practitioners' lens. However, the concept of social innovation rather than being understood by both academics and practitioners in order to help create an enhanced level of societal impact from the corporate lens as many innovative ideas are stillborn, or consolidate the knowledge foundation to provide a greater understanding from the researchers' perspective, the social innovation domain has become more marginalised (Caroli et al., 2018; Dawson and Daniel, 2010; Mulgan et al.; 2007; Phillips et al. 2015; van der Have and Rubalcaba, 2016).

Being in an intersection of numerous systems, actors/players/parties and interests, its origin is rooted in various disciplines including economics (Schumpeter, 1934), history (Manwaring, 2008); politics (Scott-Cato and Hillier, 2010), as well as urban and regional development (Guth, 2005). In the business and management domain, innovation has been frequently studied from many different perspectives such as business innovation (Phillips et al., 2005), strategic change (Burns and Stalker, 1961), economic innovation (Freeman and Soete, 1997), or technological innovation (Cajaiba-Santana, 2014). Unlike other approaches to innovation, surprisingly, social innovation has revealed its intellectual structure alignment with social entrepreneurship (Lettice and Parekh, 2010), social business (Yunus, 2007), social movements (Henderson, 1993; Dees, 2002), and social awareness (Dawson and Daniel,

2010), where the existing studies in business and management often tackles societal and economic problems (Amis et al., 2017) with an interest in profitability and economic return, as well as in reducing any potential risk (Dawson and Daniel, 2010; Phillips et al. 2015; van Wijk et al., 2019).

With the advent of conceptualising multi-faceted, dynamic, ever evolving social innovation from different perspectives by organisations, scholars and practitioners (Mulgan et al.; 2007: Philips et a. 2015; van Wijk et al., 2019) hampered the intellectual foundation of social innovation, where it has been "overdetermined" (Edwards-Schachter and Wallace, 2017, p. 64), yet remained scattered and ambiguous in the business and management domains (van der Have and Rubalcaba, 2016). Considerable amount of research has provided different overviews to social innovation which are either case studies, policy reports or conceptual discussions (Cajaiba-Santana, 2014; Mulgan, 2006; Murray, 2010). Some of the academic research studies, where scholars make a considerable effort to conceptualise, clarify, and elaborate the conceptual and theoretical approaches to social innovation, are mainly qualitative and research is mainly drawn within author-bound periphery (Batle et al., 2018; Caroli et al., 2018; Marques et al., 2018; van Wijk et al., 2019), while the need for a central understanding has been strongly emphasised (Ayob et al., 2016; Montgomery, 2016; van Wijk et al., 2019).

With these considerations in mind, in order to overcome the lack of rigour and eliminate any (unconscious) bias, and address the problems discusses above, this study aims to contribute to the social innovation domain in various ways. By conducting a bibliometric analysis, combining qualitative and quantitative analyses (Chabowski et al., 2013; 2015; 2018; Wilden et al., 2017), this study aims to broaden the understanding of the research field by mapping the field of social innovation; it also aims to identify the knowledge base of social innovation and its intellectual structure which can benefit business-to-business (B2B) scholars and practitioners. Based on the research clusters revealed throughout the study, the authors also propose a conceptual framework which elaborates the emerging themes within social innovation based on the latest publications in the field. It is anticipated that having identified the research fields and having examined how the intellectual base has been developed over time, scholars and new researchers in this field will be provided with a rigorous systematic overview. This research also aims to constitute a guideline for policy-makers, social innovators, entrepreneurs and organisations raising their awareness of the emerging topics in

the field, while it will allow them to translate the knowledge acquired into ideal strategies when embracing social innovation.

To respond to the call of scholars' for identifying the knowledge base of social innovation (Dawson and Daniel, 2010; Edwards-Schachter, 2017; Lettice and Parekh, 2010; Mulgan, 2006; Phillips et al. 2015), this research makes an effort and aspires to answer two main research questions: (1) Which are the research area(s) and theoretical frameworks that have had impacted on the evolution and development of social innovation? and (2) To what extend does social innovation diverge or converge with other concepts and approaches within the research areas that change the underlying structure of the core concept?

By using qualitative and quantitative analyses together, this research contributes to the literature in various ways: first, by implementing various quantitative bibliometric analyses we offer a quantitative approach to the intellectual structure of the social innovation in business and management domain. As a first contribution of quantitative approach, through co-citation analysis we identify the knowledge base through the most cited documents. Then we apply multi-dimensional scaling (hereafter MDS), where MDS revealed seven driving approach to the social innovation studies, and along with hierarchal cluster analysis (hereafter HCA) and network analysis, we identify the interrelationships of the research domain's knowledge, scope, evolution from a theory driven perspective. Rather than simply approaching social innovation from an author-driven perspective to present a future agenda, we benefit from using quantitative and qualitative analysis together, which allows us to examine the basis of social innovation thoroughly by revealing the relationship of the documents, gathering all perspectives and theoretical approaches; as a result, we could offer a conceptual framework by tackling four important components of social innovation for its further development.

In the following sections, we offer a detailed overview social innovation, while we also present the related theoretical perspectives and conceptual foundations of the social innovation. Next, we discuss the methodology in detail as various bibliometric analyses have been applied. We conclude with the discussion of implications that offers the future avenues along with a conceptual framework for researchers and practitioners in social innovation research hoping these to be considered for future endeavours in this research field.

2. Overview of social innovation

2.1. The evolution of social innovation

Even though the answer to what social innovation is still remains "*vague*" (Edwards-Schachter, 2017), due to the growing successful implementation of social innovation by entrepreneurs, organisations and companies, the concept has inevitably become a "buzzword" (Edwards-Schachter, 2017; Godin, 2012; Jenson and Harrisson, 2013; Pol and Ville, 2009). To begin with, Phills et al. (2008) define social innovation as "a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals" (p. 36). Looking at its evolution, Murray et al. (2008) paid attention/emphasis to the reasons of the rapid development of social innovation, classifying under them extensive problems such as climate change, increasing notion of inequality, and prevalence of epidemic diseases and potential accumulated costs of dealing with these issues, where/when the public budgets are lacking/scarce. Another triggering point for increased attention to social innovation was/has been the post-recession economic situation after 2008 (Agostini et al., 2017), as societies are aware of the problems and challenges at a wider scale where in the early 20th century, the markets mostly focus on the economy and the technological innovations (Murray et al., 2008). The increasing problems coinciding with the post-recession economies stimulate entrepreneurs, organisations and companies to lean onto social innovation movements. The examples of charter schools, fair trade movements to promote the environmental sustainability and the fair profit for agribusiness men (Stanford Business Center for Social Innovation, 2019), the Wikipedia, Open University (Mulgan, 2006), and Google Scholar (Ponte and Klein, 2016), all of them can be considered as the most recent successful examples of social innovation in a diverse portfolio.

Despite being dominant as a concept in public policies and in practice (Edwards-Schachter, 2017), social innovation has received pragmatic attention from scholars in the last two decades (Christensen et al., 2006; Dees, 1998; Nicholls, 2011; Phillips et al., 2015; Shaw and Carter, 2007). However, as the applications of social innovation vary from emission trading to charter schools (Stanford Business Center for Social Innovation, 2019), or from collaborative fundraising (The Forbes Funds, 2018) to microfinance (Cajaiba-Santana, 2014), calls for a macro-understanding which has resulted in a cluttered understanding of the concept {if it requires it, how has it resulted in something? Rather confusing here}. Besides

various organisations and governments which have adopted the frameworks of social innovation, there are still numerous challenges that are left with various bodies to adopt social innovation (Edwards-Schachter, 2017). Given the growth of the topic, and the areas under research which remain fuzzy, a comprehensive systematic evaluation of social innovation topics deems to be necessary. As emphasised by Mulgan et al. (2008), by addressing the social innovation in a comprehensive manner, the concept itself can provide valuable insights for managers and policy makers; similarly, in a theoretical context, it can offer comprehensive frameworks (Voorberg et al., 2015), where the resources can be allocated efficiently thorough the future trends of the social innovation 'to identify and find solutions to address unmet social needs' (Martinez et al., 2017.

2.2. The conceptual foundations of social innovation

Due to multi-disciplinary nature of being shared historical and disciplinary situations, social innovation have shared multi-disciplinary multi-dimensional thoughts that have helped shape/encourage social transformations (Henderson, 1993; Garcia and Haddock, 2016). Unlike other terminologies, the concept of social innovation is universally relevant across any business or government institution (Edwards-Schachter, 2017). Some researches, in particular, have provided strong testimonial that the literature frameworks on social innovation has provided tangible impact at various levels of institutional and economic development (Agostini et al, 2017). Despite various frameworks formulated in the last two decades relevant to social innovation, the topic remains elusive towards gaining a concrete understanding in a holistic perspective (Grimm et al., 2013).

Innovation becomes important when a problem becomes persistent and the results are not as desired. Within this context, social innovation does explore problems related to social contexts. Brooks (1982) in the preface distinguishes social innovation between market innovation, management innovation, political innovation, and institutional innovation. Murray et al. (2010) describe a six-step process in innovation, which encompasses prompts, proposals, prototypes, sustaining, scaling, and systemic change. These six steps act as a catalyst to bring systematic changes through social innovation. Mulgan et al. (2007) define social innovations as 'the development and implementation of new ideas to meet social needs'. Thus, the perspective of social innovation has acquired a wide view. In fact, the two words, "social" and "innovation", have on their own a huge application; the majority of the

authors have attempted to explain the similarity between the two words (social and innovation), while the others have tried to distinguish between these two words. The following section and Table 1 will offer to the reader a more oriented {towards what?} view of social innovation, together with the concept, context and themes that can be considered as the areas where (the subject of) social innovation is discussed.

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Within the scope of entrepreneurship, the concepts: *social entrepreneurship orientation*, *perceived desirability* and *perceived feasibility* were given primal importance. The applications of social innovation in social entrepreneurship are very wide which has also resulted in emphasising other important concepts too, such as social value, value co-creation, bi-focal value creation, and entrepreneurship culture. Social entrepreneurship has focussed on explaining the role of desirability and feasibility towards entrepreneurship. Given the strength and importance of social innovation models, these entrepreneurship models and concepts can be well extended in the future to social entrepreneurship. Social innovation is also discussed in sustainability theories. Notably, the concept of corporate social responsibility is used alongside social innovation theories to build models related to sustainability (Hull and Rothenberg, 2008).

Rexhepi et al. (2013) refers to the advances in CSR (corporate social responsibility) will subsequently result in social innovation. Similarly, the concept of sustainable urban development (SUD) is also intensely employed in the context of social innovation (Angelidou and Psaltoglou, 2017). While SUD is applied at a macro level in social innovation, studies like territorial development, neighbourhood development, and urban governance precisely are examined at micro level. To emphasise the synergy of social capital and social innovation, McElroy (2002) introduced the term ‘social innovation capital’. Other studies have supported social capital as a vital prerequisite to build sustainable social innovation (see Laundry et al., 2002). Lastly, Table 1 above demonstrated the application of economic theories in social innovation. Next to ecological economics, eco-innovation is another important concept used in relevance to social innovation (Boons et al., 2013; Demirel and Kesidou, 2011), a term that covers the broad aspects of environmental economics and innovation economics. Both subsets (environmental economics and innovation economics) were used in the context of social innovation (Rennings, 2000).

2.3. The core theoretical foundations of social innovation

Social innovation research focusses on various aspects related to business and society (Mulgan, 2006). Our aim is to offer eight important theoretical perspectives which are widely used in the social innovation literature. Table 2 illustrates the scope and applications of theories relevant to social innovation. Though the scope of social innovation is explored in a multi-faceted manner, the review provided in Table 2 offers a snapshot of theoretical perspectives which were predominantly used in social innovation research: namely, social entrepreneurship, social change, social value creation, territorial development, community psychology, welfare economics, institutional theory and structuration theory.

2.3.1. Social Entrepreneurship

Social entrepreneurship theory is used predominantly in association with social innovation research (Austin *et al*., 2006; Phills *et al*., 2008). Researches on social entrepreneurship were mostly directed to addressing social issues and creating social value; along these lines, social innovation was exploited as a major tool/means to create a socially sustainable value (Peredo and McLean, 2006). Moreover, research in social entrepreneurship benefits both from the commercial and social business eco-system (Stuart and Ding, 2006). Despite its vast application to social innovation, literature in social entrepreneurship was mostly confined to focus merely on the creation of new organisations (Phills et al., 2008).

2.3.2. Social Change

The theory of social change is another important societal concept which has imported the functions and process of social innovation to explore sustainable social change mechanism (Moulaert, 2013). Unlike social entrepreneurship, social change draws majorly on cultural aspects, thus researches claim that social innovation can impart strong cultural change to create a meaningful social change (Mair and Marti, 2006). Christensen et al. (2006) describe that catalytic innovators can create systematic social change through scaling and replications of community developments. Similarly, Cajaiba-Santana (2014) supported that social innovation will be a crucial driver to imposing fruitful social changes. Thus, the knowledge and applications of social innovation is widely recognised in social change theories.

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2.3.3. Social value creation

Social value creation strongly addresses that social innovation is the precursor to creating social value (Peredo and McLean, 2006). Moreover, recent researches have further extended the line of social value creation to shared values, where the applications of social innovation have become stronger. In their recent article, Porter and Kramer (2011) have emphasised the role of social innovation for building a non-capitalistic structure with a foundation of shared values. Enhancing social value for an organisation and society is equally important for organisations as private value creation. Similar to corporate social responsibility, social innovation lays the foundations for a sustainable value creation process to be built (Husted and Allen, 2007).

2.3.4. Territorial development

The theory of territorial development is another important application that has benefited from social innovation. Moulaert et al. (2005) support that social innovation can benefit/contribute to territorial developments. In their paper, Moulaert et al. (2005) emphasise the innovative improvements and high-quality developments in European cities in terms of the governance of urban communities. In addition, their paper also addressed the relevance of project coordination and territorial developments in Germany through social innovation process. The concept of territorial development in social innovation is discussed under different terminologies like local developments, bi-focal developments, and urban social development. Moulaert et al. (2000) proposed a conceptual framework which is majorly built around/on the base of institution, citizens and locality, which are altogether named as social innovation and integrated area development approach.

2.3.5. Community Psychology

The theory of community psychology addresses problems such as racial and gender discrimination, conflicts and socio-economic problems (see Maton, 2000; Seidman, 2003). The theory of community psychology and its application to social innovation focusses on fostering social transformation with interventions in different levels (e.g. individual. Community, societal) by addressing social problems by caring and putting an effort with a sense of shared humanity (Fairweather, 1967). In the context of social innovation, community psychology is an interesting theory which draws on social psychological constructs to find solutions to social problems. Though the applications of community psychology in social

innovation have only a brief history to demonstrate, its holistic approach to benefitting the society is much stronger.

2.3.6. Welfare Economics

Welfare is another core concept differentiating the concept of 'social innovation' from other innovations. According to Pol and Ville (2009), the constructive difference between innovation and social innovation is stemming from their different approaches to 'welfare', where social innovation mainly deals improving the welfare to improve problems of individuals and communities by providing employment or participation, closely linked with local development. On the other hand, business innovations tend to improve 'welfare' by providing goods and services to increase 'human welfare'. In this context, the theory of welfare economics happens to intersect with social innovation for the benefit of the society. Furthermore, the improvements in social innovation and its interrelation with welfare economics divides itself into a micro and macro quality of life innovations (Pol and Ville, 2009). The concept of social innovation is omnipresent across a variety of theories and applied in the context of political, economic, social, technology, environmental, and legal structures. Amidst a plethora of theories available, in this study we provide six major theories within which the concept of social innovation is extensively applied.

2.3.7. Institutional theory

According to DiMaggio and Powell (1991) "an/the institution can be the result of human activity which are deemed to influence human activity, but not necessarily emerged from human design" (p.8). Institution is a social structure that comprises mainly of a group of organisations or individuals with a particular exercise action in an environment that is continuously altered during time (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Barley and Tolbert, 1997; Scott, 2000). Therefore, within a broader explanation, institutional theory refers to the institutions, such as "norms, rules, conventions, and values" (Cajaiba-Santana, 2014, p.46), and it explains how our perception can be influenced by institutions, their structures and their changes (Lounsbury and Crumley, 2007). Therefore, it can be claimed that the institutional perspective has now turned into a powerful and popular tool to explain for both organisations and individuals' actions. It also attempts to answer the question why some particular business structures endure. Towards that direction, Robey and Boudrea

(1999) stated that "organizations acquire institutional properties by drawing from abstract ideals in a society, such as competition, progress and efficiency" (p. 176).

Institutional theory suggests that behavioural and structural changes are mainly determined by the level of efficiency and organisational legitimacy, and less by the firm's competitors (Lianget al., 2007). The institutional theory has been applied in a wide range of research domains ranging from sociology (Meyer and Rowan, 1977; Zucker, 1977, 1987; Jepperson, 1991) to economics literature (Williamson, 1981, 1985; Hodgson, 1998). In social innovation, the institutional theory has been mainly used to analyse the influence of Information Technology (IT) in an organisation and the impact of the innovative adoptions on organisational changes. Additionally, the institutional theory puts forward a comprehensive basis for studying transformational changes in the new environments such as social enterprises and public sectors (e.g. Currie and Guah, 2007; and Davidson and Chismar, 2007).

2.3.8. Structuration theory

Structuration theory has been used in a wide spectrum of research fields associated with social sciences ranging from entrepreneurship (Sarason et al., 2006; Cajaiba-Santana, 2011), to business ethics (Dillard and Yuthas, 2002). Structuration theory suggests that a social system is "any set of practices, patterns of interaction and social relationships that are relatively enduring" (Peters et al., 2012, p. 3). Based on its definition, structuration theory refers to a broader approach towards social actions, where it offers an explanation for social evolutions and social actions (Sarason et al., 2006; Ranson et al., 1980). According to Cajaiba-Santana (2014), one of the most important effects of structuration theory is its ability to describe the process of creating and maintaining an innovative idea, as well as ensuring continuity and changes happening over time (Staber and Sydow, 2002). Subsequently, the scope of structuration theory is not only integrative, but also broad. This broad scope suggests that the structuration theory can be applied towards explaining a great number of social phenomena. On the other hand, its integrative nature suggests that it can unite fewer general theories (Brodie et al., 2009).

In the light of these considerations and bearing in mind the growing attention paid to the social innovation concept, its applications, theories and foundations that have recently

become in demand, our aim is to provide an up-to-date bibliometric analysis of social innovation in the business and management domain. Acknowledging its potential, this study attempts to provide a solid intellectual structure of social innovation, along with the most influential authors, documents, journals with a positioning about the most dominant research interests and, finally, identify the underlying knowledge structure with implications for future research.

3. Research context and methodology

Although plenty of attempts have been made to analyse social innovation and the literature around it by conducting a systematic literature review (see Philips et al., 2015; Voogberg et al., 2015), this type of scrutiny of literature can be often criticised of lacking rigorous standards and being biased due to not having a quantitative intervention, as reviews are predominantly based on the authors' judgements (Zupic and Carter, 2015). Defined as the statistical approach to conducting a literature review (Cole and Eales, 1917; Kumar, 2019), the bibliometric citation analysis allows researchers and scholars to understand the level of activity in a specific field, to reveal the relevant publications, research performance of existing scholars in this area (positioning at the same time the current contributions of the research within the field), as well as to detect the new directions for future research (Chabowski et al., 2013; Chabowski et al., 2018; Ferreria et al., 2016; Ferreria, 2018, etc.).

Through its quantitative approach to prior literature, the bibliometric research method has received a considerable attention in different disciplines and has been extensively implemented in various areas, such as marketing (Backhaus et al., 2011), engineering (Santisteban-Espejo et al., 2019), and mathematics (Machado and Lopes, 2017). By implementing the bibliometric analysis method to examine the social innovation domain, its research foundation, the interrelationship of the research basis as well as the impactful research, authors and documents, the bibliometric method provides the advantage of unbiased approach to the literature (Nerur et al., 2008; Kumar, 2019); it also allows researchers to understand the research groups and communities by providing them with a visual representation of the literature review.

3.1. Search strategy and research methodology

As a search strategy, we employed a single keyword 'social innovation' to have a broader and more meaningful coverage in business and management domain. While selecting the keyword to compile the bibliometric data for defining a limit of a scope of the articles (Zupic and Carter, 2015), we tried to be as inclusive as possible, so that all potential and possible derivatives of 'social innovation' would be included in the search results, such as 'social innovation capital', 'social innovation process', 'social innovations', only to mention a few.

3.2. Citation analysis

After selecting the search keyword, the bibliometric research steps require the selection of the scope of the study aiming to conduct a rigorous analysis to maintain the social innovation and its intellectual structure (Zupic and Carter, 2015). Being a bibliometric method, the current study first implements a co-citation analysis. Co-citation analysis aims to offer the intellectual structure of the specified field (White, 1990), while it also enables researchers to identify the structure of the knowledge base by providing the most cited documents and mapping the interrelationship of the research in specified research domains (McCain, 1990; Shafique, 2013). Co-citation analysis also permits researchers to examine the holistic view of the historical changes in the intellectual structure of the specified research area, since it determines its intellectual structure, paradigm shifts, mapping at the same time the current research front though a long period of time (McCain, 1990; Pasadeos, Phelps, & Kim, 1998).

3.3. Co-citation analysis

The data have been gathered from Clarivate Analytics Web of Science Core Collection (WoS), which is considered one of the most comprehensive databases for scientometrics studies (Thomson Reuters, 2008). Additionally, among other databases, Balstad and Berg (2019) found that Web of Science provides the comprehensive and comparable data in management domain compared to Scopus and Google Scholar. Therefore, after selecting the database, we have followed the prominent scholars' steps of bibliometric studies (Chabowski et al., 2018; Chabowski et al., 2013). The selected keyword has been searched within the title, keywords, title, article-specific identifiers of all available abstracts across all journals in the business and management domain. As a result, we ended up collecting 370 articles from a sample of 125 journals and books with 2941 citations for 49 years. It should be noted that our aim is to examine the knowledge structure of social innovation domain by uncovering the

influential work in the formation of social innovation research, and our research domain has been particularly researched and involved in published articles. In other words, this research did not examine book reviews, editorials, or any other indirect content of research materials. Thus, this intervention narrowed down the original number of documents retrieved from 375 to 213. To increase the rigour and validity of our research, two independent researchers has performed the exact search criteria, and to decrease the bias, they also carefully reviewed the papers (Zupic and Carter, 2015).

After having gathered the documents from Clarivate Analytics Web of Science Core Collection (WoS) database, and in order to provide the rigorous structure for co-citation analysis, we gathered the data through WoS and coded the data for consistency while transferred to Bibexcel to perform bibliometric analysis. In an attempt to identify the intellectual structure, namely interrelationships within social innovation's basis, we used citation frequency to determine the highly-cited articles (Chabowski et al., 2013; Samiee et al., 2015). This could help us develop a co-citation matrix for further analysis such as MDS, where MDS offers researchers the opportunity to configure the intellectual structure of the research domain in a rigorous way (Chabowski and Mena, 2017; Hair et al., 1998). As emphasised by various scholars (see Chabowski and Mena, 2017; Ramos-Rodriques and Ruiz-Navarro, 2004), using co-citation data determined by the citation frequency allows researchers to obtain more meaningful and relational data that describe the research domain and its evolution.

To identify the number of highly cited papers, we used Ramos-Rodriques and Ruiz-Navarro's (2004) suggestions of having approximately 25 papers to able to obtain a yielding result in MDS analysis. We also followed Hair et al. (1998) and Chabowski et al. (2013) suggestions of using a stress value of 0.1 or below, to yield a good model fit. After eliminating grammatical errors or systematic biases (i.e. a methodological paper irrelevant to the research basis), and following bibliometric practices we resulted having 22 highly cited papers by identifying the co-citation frequencies of documents (McCain, 1990).

3.4. Multi-dimensional scaling

Multidimensional scaling is one of the most common quantitative analysis methods used to determine the interrelationships of the research domain's knowledge base, as well as to check the robustness of the relational data by examining the probability of model instability (Burt,

1983; Chabowski et al., 2013). in the current study, we have performed multidimensional scaling (MDS) to provide the map of objects for the representation of similarities, proximities and their relationships in a? multidimensional space (Cox and Cox, 2010; Wilkinson, 2002; Yang, 2014; Zupic and Carter, 2015). In this case, MDS allows researchers to visualise the network of the published work by examining the similarities, dissimilarities or distance between the researchers who have written on the specific topic through identifying the key dimensions of the specified research domain (White and McCain, 1998; Nerur et al., 2008; Yang, 2014).

3.5. Hierarchal cluster analysis

To increase the rigour and robustness of our research, we also employ hierarchal cluster analysis (HCA). HCA is also classified under those quantitative methods that help determine the subgroups and intellectual streams of the research domain based on the similarities of each object. HCA offers a dendrogram for a visual determination of the 'cut off' process (Janssen, 2007), where a researcher needs to decide which objects are divided into which clusters. As one of the most common protocols used to determine the clusters, connectivity-based clustering method, known as *Ward's method* offers researchers the opportunity to get interpretable results (Reader and Watkins, 2006; Yari et al., 2020). Even though MDS present more detailed results to the intellectual structure of the research domain, HCA provides an efficient overview to/of themes concerning the research domain.

Through citation and co-citation analysis, Table 3 indicates the most cited journals on social innovation in business and management domain, which are: The *Journal of Social Entrepreneurship, the Technological Forecasting and Social Change,* and the *Journal of Business Research* and *Journal of Business Ethics*. From 1970 to 2019, 11 articles on social innovation were published in the *Journal of Social Entrepreneurship*, which equals to 4.6% of total publications; 11 articles in *Technological Forecasting and Social Change* (4.6%); 9 in the *Journal of Business Research* (3.8%), and 8 in the *Journal of Business Ethics* (3.4%). Table 4 illustrates the most cited publications in social innovation in business and management domain along with their citation frequencies. The current research covers the documents starting from 1970 to 2019, namely a 49-year period.

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Though all these publications, scholars mainly attempted to cultivate a diverse knowledge that builds on social innovation, with this section trying to explore the author citations. Identification of the most highly cited publications on social innovation acts as an important measure to understand the author ranking and lays a foundation for further analyses. Looking at the most highly cited publications on social innovation, the paper by Austin et al. (2006) has received the greatest attention. Their paper mainly discussed the crux of what they proposed for people, context, deal, and opportunity, or namely the so-called PCDO *framework* in social entrepreneurship framework (Austin et al., 2006). The second highly cited paper, written by Mair and Marti (2006), discusses the significance of explaining social entrepreneurship and its impact on society. The third most popular paper by Pol and Ville (2009) attempts to clarify the endurance of the term 'social innovation' and provides four propositions that drive social innovation. In their two papers, Mulgan (2006 and 2007) make an attempt to elaborate the process of innovation. In sum, Table 5 illustrates the detailed overview of the most highly cited papers on social innovation in the last 49 years.

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3.6. Network visualisation

In addition to the quantitative approach to the literature review, by conducting network visualisation through performing VOSviewer software (see www.vosviewer.com), we also elaborated on the visual map of keywords based on the co-occurrence data (van Eck and Waltman, 2010). According to van Eck and Waltman (2010), network visualisation is an efficient and one of the contemporary methods for representing the graphical representation of bibliometric analyses, which allows researchers to comprehend the research domain and to interpret the research domain. We used VOSviewer software's text mining functionality to illustrate the term map based on the co-occurrence data in the most highly cited publication on social innovation (Figure 1).

The co-occurrence map allows researchers to interpret the research themes within the research domain, where the size of the circles denotes the number of citations that each keyword has received. Keywords which are close and in the same colour demonstrate a

stronger relationship, as they tend to be related with each other. According to our map of research themes, we can distinguish three groups: social innovation, social entrepreneurship, and social enterprise.

According to Figure 1, the most highly used keywords in the social innovation domain is *social entrepreneurship*. However, there is not a unanimous definition for the term 'social entrepreneurship.' Scholars (e.g. Austin, Stevenson, and Wei-Skiller, 2003; Boschee, 1998) have referred to social entrepreneurship as doing innovative business to create social values. Social entrepreneurship has been defined as "socially responsible practice of commercial businesses engaged in cross-sector partnerships" (Mair and Marti, 2006, p. 37). In this vein, Zahra et al. (2009) referred to social innovation as "the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner" (p. 519). Based on these two definitions, it can be suggested that social entrepreneurship and social innovation are both seeking to find an opportunity which can meet a social need (Phills et al., 2008).

Similarly, the second highly common keyword in the social innovation literature is *entrepreneurship*. The burgeoning interests in social innovation and entrepreneurship (social entrepreneurship, in particular) over the past two decades (e.g. Christensen, Baumann, Ruggles, and Sadtler, 2006; Dees, 1998; Leadbeater, 1997; Nicholls, 2006; Shaw and Carter, 2007) can be the result of the total failure of 'only profit' enterprise mode. Subsequently, the prolonged recession of the economy has led smaller public sectors to engage in some activities which are supported by desire to support social innovation and entrepreneurship and in particular social innovation.

The third highly common keyword that researchers have used is the *social enterprise*. Social enterprise can be defined as the companies or firms that do business for a *particular social purpose* (Haugh and Tracey, 2004). As such, social enterprise aims to overcome a social need by applying innovative methods. These new and innovative ways can be carried out in different areas, such as: quality of product/service, a new and innovative method of creating a product/service, a new form of an organization, or a new market. Subsequently, social enterprise can be defined as businesses which are in the quest of social impact, instead of revenue and profit (Defourny and Nyssens, 2014).

<<<Insert Figure 1>>>

4. Results

4.1. Multi-dimensional scaling

After gathering the data for the most highly cited documents across four decades and having conducted the co-citation matrix, the multi-dimensional scaling MDS was implemented aiming to identify the subfields in the specified research domain (Cobo et al., 2012). The MDS analysis used the co-citation value as indicators of proximity between the most cited works. This analysis shows the commonality and distinctive topics among the documents. The documents with higher co-citation metrics can be interpreted as having greater shared topics and bearing closer proximity. Similarly, the lower scores demonstrate the distinctiveness within/between? the topics (Ramos-Rodrigues and Ruiz-Navarro, 2003). It should be noted that the MDS analysis has been performed by using *IBM SPSS for Windows v24* to identify whether the data has a good model fit.

In order to determine the good model fit, scholars (Ramos-Rodrigues and Ruiz-Navarro, 2003) suggested one should assess stress value, where 0 is considered to be a perfect fit, while between .10 and .20 it is considered to be a good fit. The stress value found was .05960 which attains the good fit. The MDS analysis has applied .25 as standardised distance, where it yielded to eight different groups. The analysis found groups 1, 2, and 7 interconnected with each other, while each consisted of two publications. Similarly, groups 4, 5, and 6 were found to be interconnected as well; group 4 and group 5 consisted of three publication connections, whereas group 6 had two publication connections. Group 3, in which three publication connections were found, seems to be isolated by not being interconnected with any other group. Subsequent sections offer detailed discussion on the groups.

<<<Insert Figure 2>>>

With the standardised distance of .25, MDS results depict the location of each highly cited research through the social innovation co-citation data. The items which share more similarities tend to be closer and related to each other in the MDS map. Based on MDS results, we propose seven research groups which will allow researchers to have a comprehensive understanding of the social innovation structure. For grouping purposes,

following the suggestions made by Chabowski et al. (2010; 2013; 2018) and Wilden et al. (2017 JSR), the names of the groups are as follows: group 1 (V1 & V7): Case based theory building; group 2 (V1 & V17): Entrepreneurship and social value; group 3 (V22, V2, V9): Entrepreneurship and economic value; group 4 (V12, V18, &V19): Discovering and rediscovering; group 5 (V13, V14, &V15): Process and structure; group 6 (V14 & V19): Bifocal innovations; and, lastly; and group 7 (V17 & V21): Social entrepreneurship and societal impact.

Group 1 is composed of two articles which act pragmatically to social innovation discussion. V1 –Alvord *et al.,* (2004) and V7 – Eisehardt (1989) in their articles assigned importance to case-oriented methods and discussed how cases can impose valuable practical results. Alvord et al. (2004) in their article examined seven cases and prepared a practical orientation on how innovation in social entrepreneurship can infuse sustainable research and development. Along similar lines, Eisehardt (1989) described how case-based analysis can reform practical development with the usage of innovation. Furthermore, the article also emphasised that the case-based approach can be an effective method for theory building exercises. Overall, the articles in group 1 placed more importance towards case-based theory building and how the same acts (case-oriented methods) practical sustainable development for innovation and society.

Group 2 is composed of two articles; Alvord et al. (2004) and Peredo and McLean (2006). In group 1, Alvord et al. (2004) acts as a catalyst in adding importance to case-based analysis, but in group 2, both Alvord et al. (2004) and Peredo and McLean (2006) discuss the drivers and outcomes of social innovation and entrepreneurship in the preface of measuring through the social value. More importantly, both papers proclaim that community building should be the key of investing in social entrepreneurship. The same idea was put forward by Peredo in his previous papers (Peredo, 2003; Peredo and Chrisman, 2006). Even though the perspective towards the topic can be considered in both Group 1 and 2, it can be said the group 1 approaches to the topic from more methodological perspective, where there is a support of case-oriented method and its way of bringing multi-dimensional discussion which may further result in failing under multiple groups.

Group 3 consisted of three articles: Austin et al. (2006), Mair and Marti (2006), and Zahra et al. (2009). Austin et al. (2006) as a whole cover various aspect of social entrepreneurship in

their paper, such as regulations, people, capital, opportunity, political, economic value, etc. through a holistic framework. But in the context of other papers from group 3, it can be understood that the commonality between the three papers is the economic value. Both Mair and Marti (2006) as well as Zahra et al., (2009) emphasised that the primary goal of social entrepreneurship is to create a legitimised social and economic value. Zahra et al. (2009), besides proposing the importance of economic goal of social entrepreneurship, also emphasised the ethical necessity of social entrepreneurship.

Group 4 contains the following three articles: Mulgan (2006), Phills et al. (2008); Pol and Ville (2009). Unlike other groups, this group contains the articles that gave exclusive coverage on social innovation and its nuances. Mulgan (2006) in his article clarified the social innovation process and its underlying nuances. He also supported the growth of social innovation and argued positive impact towards society and growth. Phills et al. (2008) mentioned that social entrepreneurship and social enterprise are two positive components that create and look forward for social change in this world economy, while they also rediscovered the nuances proposed by Mulgan (2006). Pol and Ville (2009) provided four conceptions which further explained and explored the social innovation buzz. The four conceptions revolved around how social innovation can bring change to society, organisation and market as a whole. Overall, group 4 explored the nuances of social innovation and its scope in the world economy.

Group 5 consisted of three articles; Mulgan et al. (2007), Mumford (2002), and Murray et al. (2010). Mulgan et al. (2007) presented the nuances, processes, and challenges of social innovation in an exhaustive manner. The primary focus of the paper revolves around contemporary process and stages for innovation and explaining how social innovation plays a crucial role. Similar to Mulgan et al. (2007), Mumford (2002) explained various nuances of social innovation with a major emphasis on organisational innovation. The element of commonality of Mumford (2002) with group 5 gives a clear picture of social innovation in organisational context. Murray et al. (2010) in their book on social innovation clearly spoke about the process of innovation. They thoroughly explained the six stages of the process, namely prompts, proposals, prototypes, sustaining, scaling, and systematic change. Overall, the articles and book in group 5 demonstrated the process and structure of social innovation and their application to organisational innovation.

Group 6 consisted of two articles: Mumford (2002), as well as Pol and Ville (2009). Despite that both articles spoke exhaustively about various processes and the endurance of social innovation, one of the commonalities that they exhibit is that they connect the social and business innovation. Pol and Ville (2009) in their article called the intersection point between social and business innovation a 'Bifocal innovation' (p. 21). The article instated the role of organisation in creating an enduring social innovation paradigm. In a similar sense, Mumford (2002) explained the role of organisation performance and leadership in creating social innovation.

The last group, i.e. group 7, consisted of two papers; Peredo and McLean (2006), and Weerawardena and Mort (2006). Both papers discussed primarily the impact of social entrepreneurship on societal development. Weeerawardena and Mort (2006) proposed 7 dimensions that can improve social entrepreneurship dynamic in the face of society, organisation and legislation. Meanwhile, Peredo and McLean (2006) focused on five major suggestions; that is, 1. Creating social value; 2. Recognising the opportunities to create social value; 3. Employing innovation; 4. Tolerating risk; and 5. Utilizing available resources. Thus, group 7 majorly encompasses the entrepreneurship and society integration. All seven groups connected social innovation and social entrepreneurship in diverse ways.

4.2. Hierarchical cluster analysis

Hierarchical cluster analysis (HCA) mainly focuses on the similarity between relevant research studies, and it is considered one of the most common methods for the bibliometric analysis (Hair et al., 1998). In order to apply hierarchical cluster analysis for producing clusters, we have implemented Ward's method (Reader and Watkins 2006). Figure 3 presents the hierarchical cluster analysis using Ward's method.

<<<Insert Figure 3>>>

The HCA clustering produced five clusters, named as follows: cluster 1 (V5, V20, &V11): social change; cluster 2 (V8, V15, &V10): socio-scientific innovation; cluster 3 (V13, V14, &V4): process and practices; cluster 4 (V3, V16, & V6): key to social entrepreneurship; cluster 5 (V1 & V7): case based theory building. The Ward's method identified five research

clusters; clusters 1 to 4 consist of five publications each, whereas cluster 5 contains two publications.

Cluster 1 consists of Christensen et al. (2006), Moulaert et al. (2013) and Porter and Kramer (2010), with all three publications failing to establish any connection in MDS. Christensen et al. (2006) discusses how disruptive innovation can be applied to different sectors like healthcare, education, and economic development in order to bring positive social change. In their book, Moulaert et al. (2013) bring the non-trivial relationships between 'knowing – orizing', 'hoping – doing', and 'experiencing - institutionalising' which can build social change. Similarly, Porter and Kramer (2010) emphasised the importance of creating shared value for identifying and expanding the connections between societal and economic progress. Through their paper, they argued that society and business-based innovation can bring social change to the benefit of the country. Overall, cluster 1 explained the role of social innovation in triggering social change.

Cluster 2 identified three articles, Howaldt and Schwarz (2010), Moulaert et al. (2005), and Murray et al. (2010). Howaldt and Schwarz (2010) and Moulaert et al. (2005), which are ungrouped in MDS, were found to be members of cluster 2 with Murray et al. (2010) also included in the cluster. Howaldt and Schwarz (2010) in their research explain that a proper application social science paradigm will play a great role in analysing and shaping social innovation for the society and organisations. Moulaert et al. (2005) claimed that social science theory brings a valid meaning to social innovation; subsequently, the relationship leads to socioeconomic developments. Along similar lines, Murray et al. (2010) in their research supported the integration of social science research in social innovation frameworks, and they suggested various ways for improving social innovation ground by supporting the public sector, the grant economy, the market economy, and the household economy. Overall cluster 2 mainly concentrated on the role of social sciences in social innovations. This understanding was not observed in MDS.

The publications by Mulgan et al. (2007) and Mumford (2002), which were part of Group 5 in MDA, were? joined again in cluster *3* including Cajaiba and Santana (2014), which failed to establish any connections in MDS. As mentioned in group 5 of MDS, Mulgan et al. (2007) and Mumford (2002) extensively discussed the process and nuances of social innovation, in addition to that by Cajaiba and Santana (2014) who proposed a multidimensional process

map for social innovation; their process map included agency, institutions and social systems as its major components. Thus, cluster 3 majorly revolves around the process and structure of social innovation framework.

Similar to cluster 1, *cluster 4* (Battilana and Dorado, 2010, Dacin et al., 2010, and Nicholls 2010) was formed with the publications that failed to establish any connections in MDS. Battilana and Dorado (2010) in their research compared two pioneering commercial micro-financial organisations, and suggested that common sustainable goals among hybrid organisations strike balance of success for entrepreneurship. Dacin et al. (2010) in their paper shared a wider perspective that theories in conventional, cultural and institutional entrepreneurship are extremely necessary in order to build social entrepreneurship. Nicholls (2010) also explains that discourses and emerging narrative logics are key to social entrepreneurship development. Therefore, cluster 4 introduces a new understanding of connections which was not available in any groups of MDS.

Finally, *cluster 5* which consists of Alvord et al. (2004) and Eisehardt (1989) is found to be a mirror of group 1 in MDS. So does cluster 5, which is named accordingly as group 1 in MDS. Except for cluster 5, the remaining clusters were unique from MDS results, which authenticates the function of HCA besides MDS.

4.3. Multi-method Comparison

Given the combined strength of MDS and HCA, the ladled out the groups and articles offer a diverse view. The groups ladled through MDS mostly revolve around the aspects of social entrepreneurship, and diverse topics on social innovation are least discussed. In other words, the articles in groups of MDS exhibit similarity which is not much related to social innovation. For example, articles in group 1 MDS commonly dealt with using case for theory building. This implies that methodology-based commonality is prevalent in that group. More specifically, the light of MDS does not provide any detailed topic or derivation to conclude any framework. Yet, on the other hand, HCA provided detailed insights through five clusters. Predominantly, these clusters attempt to explain every direction in which social innovation can grow. There is a resemblance among group 1 and cluster 5. Apart from that, the clusters revealed various dimensions like social change, socio-scientific innovation, and social innovation process.

5. Discussion and implications

By examining 22 highly-cited articles in the social innovation domain, our aim was to establish a fundamental intellectual structure towards the domain, while different bibliometric methods (e.g. MDS and HCA) allowed us to have a more robust standpoint. One of the objectives of this research was to offer a future avenue to other researchers and advance the research domain. Therefore, in this section, aiming to help advance the domain and map the future insights of social innovation, we review the highly cited articles between 2017-2019, where the first 20 most-highly cited articles between 2017-2019 (see Table 6) were chosen (Chabowski, 2013; 2018). After reviewing the recent, highly cited articles, we adopted Chabowski's (2010; 2013; 2018), Chabowski and Mena (2017) procedures to integrate the highly cited papers into a future model. This process allowed us to recognise the trends and possible extensions in the social innovation domain, as well as to identify the direction of the major interests in the recent years. While proposing the future model, in this section we also discuss the recent highly cited papers. Based on the framework and these papers, we also addressed potential future questions to help the further development of the research domain.

<<<Insert Table 6>>>

The proposed framework we developed—which is introduced in Figure 4—is based on the critical aspects and approaches that appeared in the recently highly cited articles. Through the concepts and constructs that are highlighted in these articles, one can conclude that social innovation is a highly dynamic process, within which value creation occurs through the exploitation of opportunities (Mair and Marti, 2006; Perrini et al., 2010), asserting that it can be achieved through the combination of seeking and diagnosing the opportunities (through technology transfer, business formation and problem solving) and implementing the innovation practices (right resources, products, services, knowledge, technology, market) for delivering superior value (Casson, 1982; Edwards-Schachter and Wallace, 2017; Kirzner, 1973; Schumpeter, 1934; Shane and Venkataraman, 2000; Shane, 2000; Wilson and Millman, 2003).

Opportunity

One of the potential productive areas of research in the social innovation domain could be *opportunity*. Opportunity has been defined as a chance to accommodate a (social) need through a creative combination of resources for delivering superior value (Casson, 1982; Kirzner, 1973; Schumpeter, 1934; Shane and Venkataraman, 2000; Shane, 2000; Wilson and Millman, 2003). According to its very basic premise, opportunity can be named/described as a social need or under-employed capabilities (Kirzner, 1997), where underemployed resources can and may deliver or create new values. In other words, opportunity can arise from an underemployed, or new, technology (Schroeder et al., 1996). According to Ardichvili et al. (2003), there are four types of opportunities: i.e. dreams, problem solving, technology transfer, and business formation. To elaborate on these, the concept of dreams refers to the situation where the problems and the solutions are both unknown. This type of opportunity may refer to/match the type of the creativity that is mainly associated with scientists, artists or, in general, dreamers who are interested in shaping and moving the prior knowledge into a new direction, or pushing the technology beyond its limits. As the problems are known in the social context, the dreamer was omitted from the proposed future model, seen in Figure 4.

The problem solving refers to the problems and social needs that are known, but whose solutions remain unknown. Technology transfer exhibits the problems that are unknown, but here the solutions are available. In other words, the resources are known, yet still there is no application for them. For instance, in the past it was not known that customers are willing to pay a premium price for household products that utilise non-toxic chemical consumption (York and Venkataraman, 2010). Lastly, business formation refers to the opportunities encountered when both solutions and problems are known. This section requires matching the known and available resources to create and make a business which can create value.

<<<Insert Figure 4>>>

Innovation practice

Resources

According to Shpak et al. (2017), innovation in the social sphere can be achieved through leveraging resources, sharing data and creating sustainable models for change. Three distinctive kinds of resources has been defined by scholars: the human, financial and physical resources (Austin et al., 2006a, Austin et al., 2006b, Mulgan et al., 2007, Pot and Vaas, 2008,

Short et al., 2009, Wheatley and Frieze, 2006). The process of creation and realisation of social innovation practices can only occur with the available resources, and it is also connected with the investment and validation of the resources themselves (Austin et al., 2006a, Austin et al., 2006b; Pot and Vaas, 2008, Shpak et al, 2017). In addition, other type of resources like network resources (Murray et al., 2010) and governmental support (Mulgan, 2006) can assist in enhancing the quality of social innovation. The significance of resources in terms of social innovation practices is highlighted in the highly cited articles, but it is not covered in a comprehensive manner; thus future studies could investigate resources as one of the most important foundation points of the innovation practices (Short et al., 2009) and therefore resource was applied to the proposed future model.

Product/Service

Service/product innovation refers to the act of combining resources in a new and genuine way. In other words, as Lusch and Nambisan (2015) account for it, service innovation is "the rebounding of diverse resources that create novel resources that are beneficial … to some actors in a given context" (p. 161). Similarly, Vargo et al. (2015) defined service innovation as "the collaborative recombination of practices that provide novel solutions for new or existing problems" (p.64). These two definitions are aligned with Schumpeter's (1934) definition of service/product as "*conducting new combination*" (p. 66). Product/service innovation benefits from combining new and old resources with the current knowledge and technology. Service innovation commences with changes in the resources and culminates in new combinations. Subsequently, it can be concluded that social innovation is the outcome, or the result, of combining current and new resources.

Knowledge

The resource-based paradigm states that knowledge plays a vital role in generating a competitive advantage for firms. Knowledge is considered to be an asset (Liu and Atuahene-Gima, 2018), which can lead to a superior competitive advantage (Barney, 1991). Knowledge has been referred to as one of the most critical resources that can distinguish a firm from its competitors (Kogut and Zander, 1996, Spender, 1996). Consequently, knowledge as a unique resource plays a vivid role in every social innovation (Knott, 2003).

Technology

The models of technology have often shed light on the importance of technology for producing and designing new commercially valuable services or products. In this respect, Snow (2007) referred to innovation as "a new product, service, or idea, a new process technology, a new business model" (p. 101). Furthermore, recently the importance of technology is rapidly growing. In many developing and developed countries there is a wide range of new and distinctive technologies that promise growth for the emerging social problems. These shifts in technology mainly focus on technologies such as nanotechnology, environmental science, and life science.

Market

One of the most important elements of social innovation is its interest in and focus on individuals with lower income. Results of Christensen et al. (2001), Prahalad and Hammond (2002), Prahalad and Hart (1999), as well as Prahalad and Hart (2002) suggest that firms not only can make a profit while aiding others, but they can also address effectively some social issues.

Opportunity Exploiter

Through the evolution of the social innovation domain, one of the fundamental concepts is exploiting opportunities. Yet, few attempts have been made to investigate exploiting opportunities thoroughly (Dwivedi and Weerawardena, 2018; Wittell et al., 2017). Social innovators and social entrepreneurs tend to start their innovation process by identifying the opportunities that addresses a specific societal problem (Austin, 2006; Cajaiba-Santana, 2014; Franz et al., 2012). Social entrepreneurs constantly seek to find opportunities that create value to potential and existing customers/clients (Weerawardena and Mort, 2006), while social entrepreneurs can also create opportunities (Alvarez and Barney, 2007) and launch business and firms which may result in overcoming economic imperative, and creating social wealth (Elkington and Hartigan, 2008; Perrini, 2006; Dwivedi and Weerawardena, 2018). According to Thompsone et al. (2000), a social entrepreneur is an individual who perceives that there is an *opportunity* to accommodate people's needs that a government or the state cannot, or will not meet. According to his four-step process of social entrepreneurship, the first step is perceiving an existed opportunity. Social entrepreneurs contribute significantly to the communication (Welter, 2011), as they can influence the

activities that are necessary to be undertaken for creating, discovering, defining and exploiting opportunities to advance social wealth through innovative manner and disciplines.

Zahra et al. (2009) identified three types of social entrepreneurs: the *social engineer, the social bricoleur, and the social constructionist.* The social engineer refers to an individual who recognises a systematic problem/issue within a social structure, and attempts to overcome the problem by developing a revolutionary modification. Since bricolage refers to diagnosing, and solving the problem, as well as to exploiting opportunities with existing resources (Witell et al., 2017), a social bricoleur mainly focuses on 'whatever is at hand' approach (Witell et al., 2017, p.?) and tries to address problems and discover limited and small-scale local needs. Finally, the social constructionist tries to exploit opportunities by filling the gap to the underserved clients to extend the social system.

To overcome a specific social need, social entrepreneurs combine their resources to pursue a social need (Mair and Marti, 2006). As rightfully mentioned by Mair and Marti (2006), social entrepreneurs mainly focus on the individual characters and individual traits of a specific person. Following Drayton (2002), social entrepreneurs mainly have strong ethical traits and also have a vision of social change they want to achieve. On the other hand, social enterprises can also accommodate a social opportunity (Prahalad, 2006). Such a social firm can be founded either by social corporations, or individual entrepreneurs (Prahalad, 2006). On the other hand, the term *social entrepreneurship* is a way to place more emphasis on the organisational dimensions of the entrepreneurship. In this vein, the term social enterprise is the 'tangible outcome of the social entrepreneurship' (Petrella and Richez-Battesti, 2014).

Different scholars have referred to the social enterprise via two distinct schools of thought. The first, or the earned income one, involves the non-profit organisations that try to find an alternative solution for their funding strategies. In other words, earned income social enterprises try to develop a market-oriented activity which brings income (Defourny and Nyssens, 2010). These businesses are different from charities, as they are not dependent on the public subsides, nor on people's donations. The idea of social business, on the other hand, is to try to aid poor to have adequate access to the market (Prahalad, 2004). Furthermore, these social enterprises have a social mission which drives social innovation practices (Dwivedi and Weerawardena, 2018). The second school of thought is the non-profit school of thought, which mainly involves social entrepreneurs. Even though this perspective appears in

the highly cited articles, this area remains underexplored (Witell et al., 2017) and still holds a potential expansion for social innovation domain.

Value

Economic and social value

Various researchers (e.g. Faulkner and Senker, 1994, George et al., 2002, Markman et al., 2009) have highlighted the significant contribution of innovation and scientific discoveries to sustain economic and social value. Through such innovations, firms can enhance and improve their product quality and consequently enhance their firm performance (Baba et al., 2009, Lavie and Drori, 2012, Markman et al., 2008). In addition, by leveraging the state of the art, technology firms can play a vital role in generating economical value of scientific technologies (Pisano, 2010, Stuart et al., 2007). What is more, the findings of Greenhalgh and Rogers (2006a), Greenhalgh and Rogers, (2006b), Sandner and Block (2011) reveal that using new technologies can assist firms in enhancing their economic and social value. Social entrepreneurs can identify and take advantage of social opportunities that they aim to deliver in a more superior way (Dees, 1998). In other words, as Peredo and McLean (2006) have claimed, "for social entrepreneurs, the social mission is explicit and central.... Mission-related impact becomes the central criterion, not wealth creation" (p. 59).

Sustainability

Over the last decades, the issues concerning environmental sustainability are increasing considerably and they have turned into a principal concern for customers and customer groups, firms, as well as governmental and nongovernmental organisations. The most highly cited definition of sustainability is the definition of World Commission on Environment and Development (1987) that defines sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 8). In the marketing domain, a large body of literature is published under the concepts of sustainable consumption (Sharma et al. 2010), green marketing and environmental marketing (Grinstein and Nisan 2009). Consistent with the potential definition of innovation and social entrepreneurship in the previous sections, the term 'social innovation' can be seen as aptly capturing the essence of sustainability. As social innovation delivers social benefits and economic values, following Pfitzer et al. (2013), the notion of social innovation consists of innovating for shared value. The firm mind-set that is similar to Porter and Kramer's (2011)

idea of shared value, as practices and innovations of a firm advance the competitiveness, and economic and social condition in the community within which it operates.

The influence of opportunity on the innovation

The influence of opportunity on the innovation has been also studied to some extent. For example, results of a number of studies (see Park, 2005; Ulwick, 2002; Brush and Chaganti, 1999; Cohen and Winn, 2007; Ucbasaran et al., 2009) unveil that opportunity positively relates to innovation. For instance, results of Spring and Araujo (2013) suggest that there is a shift in product innovation towards service innovation. In their results, they suggest that the literature is moving towards productive opportunity in manufacturing-oriented supply networks. Additionally, findings from Salunke et al. (2011) confirm that service firms, which carefully monitor and use the potential market opportunities, can achieve better and more sustainable service innovation, resulting in a more sustainable competitive advantage. In addition, other scholars (e.g. Matthyssens et al., 2006; Sharma and Iyer, 2012; Sisodiya et al., 2013; Sok and O'Cass, 2011) have also examined the relationship between opportunity and resource innovation. Furthermore, certain studies conducted (e.g., Nasution et al., 2011; Storbacka and Nenonen, 2015; Zhou, 2006) have shown that there is a relationship between opportunity and market innovation. Additionally, some scholars (e.g., Beard and Easingwood, 1996; Leenders and Voermans, 2007) have suggested that there is a positive line between opportunity and technology innovation.

However, concerning the results of the present study, limited research has been conducted to influence the impact of different types of opportunity on innovation. For instance, future researchers can investigate the role of problem-solving social needs on the market and technology innovation, and compare different types of opportunity on innovation with its influence on product/service innovation. Future studies could also try to answer the question of what types of innovation each social opportunity demands. For example, what the best innovation practice for the technology transfer social opportunities (problems that are unknown but the solutions are available) would be. Another hot issue is whether market innovation is the best answer to the technology transfer social opportunities, or if other innovation practices should be taken into account.

Additionally, the influence of opportunity on opportunity exploiter has been also studied. Previous studies (see Short et al., 2010; Tian et al., 2018; Woodside et al., 2016) had

discussed the relationship of opportunity to opportunity exploiter to a certain degree. Yet, a limited number of studies have studied the influence of the role of different social opportunity on opportunity exploiter. Thus, future studies may answer questions such as what the best opportunity exploiter for the problem-solving social opportunities actually is. Additionally, with respect to our study, only few articles have investigated the influence of opportunity on the opportunity exploiter.

What is more, considerably less scholars have conducted studies on the disparate elements of social innovation process. Consequently, a new lime of social innovation studies may try to investigate the possible inherent in such theory-based relationships. Very little is also known about the influence of social entrepreneur type with respect to innovation practice. Is social engineer entrepreneur type more likely to adopt service/product innovation? Would the answer be different for the social constructionist? Besides such questions, a limited number of empirical and case studies have been performed trying to address questions of this type. Subsequently, future studies may try to come up with an answer to these question by applying a different methodology.

The influence of social innovation process on the value

As mentioned earlier, several studies have tried to shed light on the relationship between social innovation process, value (e.g., Dutta and Folta, 2016; Hockerts and Wüstenhagen, 2010; Rosenbusch et al., 2011), and sustainability (e.g., Bock, 2012; Choi and Majumdar, 2014; Herrera, 2015; Hockerts and Wüstenhagen, 2010; Seebode et al., 2012; Varadarajan, 2014). However, a more complete and comprehensive assessment of the relationship between the social innovation process and value is shown in the future model yet to be done. Therefore, future studies could address the following questions: *Which elements of innovation process create the greatest influence on economic, social and sustainable value creation? Does this remain equal for different entrepreneur types? Does it differ for social enterprises? How different can innovation be in the B2B context, and what would its contribution be to the value? How do social enterprises and social innovation practices differ in B2B?* With more rigorous approach to the social innovation, and its evolution, it is hoped that this research will help scholars and practitioners for further improvement of the intellectual structure of social innovation.

6. Limitations

Like any other study this research could not evade having some limitations. First of all, we used only one specific keyword, namely ‘social innovation’, for extracting the articles from the web of science database. Using different keywords could result in retrieving a different number of documents. Subsequently, as the MDS results are highly dependent on the most highly cited articles in a sample, any changes in the sample would influence the nature of the results. If the change is great, then the emergent results of MDS and HCA results will be considerably different. Additionally, since only one database was employed for the purposes of this research, future researchers are encouraged to search in other databases too, such as SCUPOS, for example, and compare their results to the results of the current study.

Moreover, although MDS and HCA are widely used in the bibliometric assessment of a scientific research area, other forms of bibliometric evaluation might reveal different forms of social network. We would, therefore, recommend that future researchers also apply different bibliometric methods, such as EFA, to investigate further the research domain. Furthermore, in order to gain a comprehensive understanding of the research domain, future researchers could also apply different visualisation software like Pijek, for instance. An analysis of that type could incorporate the published articles as one mode and the research domain as another mode. Consequently, the findings might reveal supplementary and interesting information about the development of social innovation. Last but not the least, future researchers are encouraged to conduct a time framework analysis on the research domain. As a result, not only could scholars understand the development of the research domain during time, but the more recent continuations may also prove to be important and serve as a new block for social innovation research with the insights provided throughout this research.

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Table 1: Important concepts discussed in Social Innovation					
Discipline	**Concept**	**Definition**	**Themes/dimensionality**	**Context**	**Exemplars (Chronological Order)**
Entrepreneurship	Social Entrepreneurship Orientation	"the process involving the innovative use and combination of resources to pursue opportunities to catalyse social change and/or address social needs" (Mair and Marti, 2006, p. 318).	Innovativeness, Proactiveness, Risk Management, Effectual Orientation, Social Mission Orientation	Entrepreneurial behaviour in resource-constrained contexts	Dwivedi and Weerawardena (2018); Mair and Marti (2006)
Entrepreneurship	Perceived Desirability	Perceived desirability refers to the attractiveness of involving in an entrepreneurial event	Emotional, Cognitive	Social Entrepreneurial Intention	Jiao (2011); Mair and Noboa (2003; 2006)
Entrepreneurship	Perceived Feasibility	Perceived feasibility refers to the degree to which one has the capacity to forming a company	Self-Efficacy, Social Support	Social Entrepreneurial Intention	Jiao (2011); Mair and Noboa (2003; 2006)
Sustainability	Corporate Social Responsibility	"Corporate social responsibility associations reflect the organization's status and activities with respect to its perceived societal obligations" (Brown and Dacin, 1997, p. 68)	CSR with employees CSR with customers CSR with suppliers CSR with local community Environmental responsibility	Corporate social performance and innovation	Brown and Dacin (1997); Martinez-Conesa *et al.* (2017)
Public Policy	Sustainable Urban Development (SUD)	SUD refers to creating a long-term community building by addressing the social challenges	Sensor citizen, Collaborative citizen, Entrepreneurial citizen, Sharing citizen	SUD applies through two facet of Social Innovation framework; 1. Local development through social innovation 2. Socio-technical transitions	Angelidou and Psaltoglou (2017); Lubberink et al. (2017), McCormick et al. (2013)
Social Capital	Social Capital	Social capital is 'the sum of the actual and potential resources embedded within, available through, and derived from the network of relations possessed by an individual or social unit' (Nahapiet and Ghoshal,1998, p. 243).	Structural Dimension, Relational Dimension, Cognitive Dimension	Social capital components and innovation	Dakhli and De Clercq (2004); Landry et al. (2002); Nahapiet and Ghoshal (1998); Zheng (2010)
Economics	Eco-Innovation	Eco-innovation is built upon the relevant actors namely; firms, politicians, unions, associations, churches, private households)	Technology push Regulatory push	Eco-innovation for a sustainable social innovation	Bossle et al. (2016); Hellström (2007); Rennings (2000);

Table 2: Overview of Main Theoretical Perspectives in Social Innovation

Theory	Definition	Scope	Limitations	Exemplars (Chronological Order)
Social Entrepreneurship	Social entrepreneurship is an important lexicon in entrepreneurship world, with a primal focus to increase social impact with innovative approach to achieve the mission.	Social entrepreneurship and social innovation together provide a novel solution to increasing social problems. Amidst business innovations, social innovation paradigms stand out to deliver prospective solutions of all social entrepreneurship problems.	More exhaustive in nature and the literature is disjoint and disparate resulting in variety of definitions and processes.	Dacin et al. (2011), Dawson and Daniel (2010), Maclean et al. (2013), Philips et al. (2015), Phills et al. (2008), Shaw and de Bruin (2013)
Social Change	The concept of social change deals with human interactions and relationships resulting in transforming cultural and social setup of organisations with a consequential impact on society.	The transformational social change can be achieved through social innovation. The social imitations and inventions have always been a successful practical precursor for adaptive social change	The wealth of relationship between social change and social innovation has received prominent attention in terms of sociology theories. But the practical judgement in this context remains unexplored.	Social Change Cajaiba-Santana (2014), Christensen et al. (2006), Moulaert (2013), Nandan et al. (2015)
Social Value creation	Often social value creation is synonymously understood as "co-value creation", whereas social value creation is in fact broader than that. Social value creation in business terms is orchestrated through organisations mission to impart value to different sections of stakeholders which mainly incudes society.	Social innovation can contribute to social value creation through three dimensions, formalisation, change processes, and social outcomes. More than creating an interaction and transformational setup, social innovation also adds dynamic approach value chain to increase organisational performance and its societal outlook.	Provided the dynamic business environment and changing cultural setups, social value creation has become a challenging aspect in recent years.	Hazy et al. (2010), Herrera (2015), Le Ber and Branzei (2010), Popescu (2015), van der Have and Rubalcaba (2016)
Territorial development	It refers to changes and better inclusions of excluded group and individuals belonging to the various sub-sets of society. The developments are mostly concerned with local societal	Within the range of local and global social innovation, most of the researches have addressed the importance of social innovation in territorial development. Researches and case state that social innovation in its way to provide social	Although the theories in this area, mainly focuses on the technical, social and economic feasibility of this model in social innovation, but the political agendas as a hindrance for such	Baker and Mehmood (2015), MacCallum (2009), Moulaert (2016), Moulaert and Sekia (2003), Moulaert et al. (2010),

	improvements.	changes, besides also improves the status of urban and rural developments.	development is not explored.	Swyngedouw (2016)
Community Psychology	Community psychology is a solution-oriented models which provides alternative and innovative results for societal problems. The major aim of this model is to create an effective social sub-system with an experimental evaluation.	Social innovation, when used in the context of community psychology is usually referred to as "experimental social innovation" (ESI). Given the goal of community psychology to find prospective social change through innovative contexts.	Community psychology theory majorly derives the idea of social innovation in the societal front. The application of ESI deals with more scientific applications with requires more technology assistance besides human interactions.	Castro and Mouro (2011), Choi and Majumdar (2015), Linney (1990), Mayer and Davidson (2000), van der Have and Rubalcaba (2016)
Welfare Economics	It is a branch of economics, which mainly focusses to improve and provide suggestions and solutions with reference to well-being of the community.	Welfare economics is an important terminology used in social innovation to address the problems and improvements in quality of life of people. Previous researches have addressed the micro and macro-quality of life that can uphold the social innovation process.	Though the concept of welfare economics is theoretically strong to impose favourable measures to social innovation, but the concept requires more dynamic understanding to create a sustainable process.	Pol and Ville (2009), Roy et al. (2014), Moulaert (2013)
Institutional theory	It refers to the behavioural and structural changes are mainly determined by the level of efficiency and organisational legitimacy and less by the firm competitors.	Institution is a social structure that comprises mainly of a group of organisations or individuals with a particular exercise action in an environment that continuously be altered during time.	The institutional theory puts forward a comprehensive basis for studying transformational changes in the new environments such as social enterprises and public sectors.	Meyer and Rowan (1977), DiMaggio and Powell (1983), Barley and Tolbert (1997), Scott (2000)
Structuration theory	It refers to a broader perspective on the social action and social actions, where it offers an explanation for social evolutions and social actions.	One of the most important impact of structuration theory is its ability to comprehend the process of creating and maintaining of an innovative idea as well as with continuity and changes happening over time.	The structuration theory can be applied towards explaining a great number of social phenomena; additionally, its integrative nature suggests that it can unite fewer general theories.	Sarason et al. (2006), Brodie et al. (2009), Cajaiba-Santana (2011)

Table 3. Most cited journals in social innovation

Rank	Journal	Number of articles	Percentage distribution of published articles (%)	Rank	Journal	Number of articles	Percentage distribution of published articles (%)
1	Journal of Social Entrepreneurship	11	4,681	15	Innovation Organization Management	3	1,277
2	Technological Forecasting and Social Change	11	4,681	16	Science Technology and Society	3	1,277
3	Journal of Business Research	9	3,83	17	Technology Analysis Strategic Management	3	1,277
4	Journal of Business Ethics	8	3,404	18	Academia Revista Latinoamericana De Administracion	2	0,851
5	Industry and Innovation	7	2,979	19	Cogent Business Management	2	0,851
6	International Journal of Technology Management	7	2,979	20	Foresight and Sti Governance	2	0,851
7	Social Enterprise Journal	7	2,979	21	Gestao E Desenvolvimento	2	0,851
8	R D Management	6	2,553	22	Harvard Business Review	2	0,851
9	Research Policy	5	2,128	23	Human Relations	2	0,851
10	Technovation	5	2,128	24	Intangible Capital	2	0,851
11	Business Society	4	1,702	25	International Small Business Journal	2	0,851
12	Entrepreneurship and Sustainability Issues	4	1,702	26	Journal of Applied Behavioural Science	2	0,851
13	European Journal of Innovation Management	4	1,702	27	Journal of Innovation Economics Management	2	0,851
14	Entrepreneurship and Regional Development	3	1,277	28	Innovation Organization Management	3	1,277

Table 4. The most highly cited publications on social innovation

Rank	Publication	Source	Citation frequency
1	*Entrepreneurship Theory and Practice*	Austin, Stevenson, and Wei-Skillern (2006)	35
2	*Journal of World Business*	Mair and Marti (2006)	33
3	*The Journal of Socio-Economics*	Pol and Ville (2009)	30
4	*Innovations: Technology, Governance, Globalization*	Mulgan (2006)	28
5	*Oxford Said Business School Working Paper*	Mulgan (2007)	27
6	*Stanford Social Innovation Review*	Phills, Deiglmeier, and Miller (2008).	26
7	*Technological Forecasting and Social Change*	Cajaiba-Santana (2014)	24
8	*Journal of Business Venturing*	Zahra, Gedajlovic, Neubaum, and Shulman (2009)	24
9	*The Open Book of Social Innovation*	Murray, Caulier-Grice, and Mulgan (2010)	23
10	*Academy of Management Review*	Eisenhardt (1989)	22
11	*The Journal of Creative Behaviour*	Mumford, Medeiros, and Partlow (2012)	21
12	*The Journal of Applied Behavioural Science*	Alvord, Brown, and Letts (2004)	20
13	*Urban Studies*	Moulaert, Martinelli, Swyngedouw, and Gonzalez (2005)	20
14	*In Challenge Social Innovation*	Howaldt and Kopp (2012)	19
15	*Journal of World Business*	Weerawardena and Mort (2006)	19
16	*The International Handbook on Social Innovation: Collective action, social learning and transdisciplinary research*	Moulaert (2013)	17

17	*Journal of World Business*	Peredo and McLean (2006)	17
18	*Harvard Business Review*	Porter and Kramer (2011)	16
19	*Harvard Business Review*	Christensen, Baumann, Ruggles and Sadtler (2006)	15
20	*Academy of Management Perspectives*	Dacin, Dacin, and Matear (2010)	15
21	*Accounting, Organizations and Society*	Nicholls (2009)	14
22	*Academy of Management Journal*	Battilana and Dorado (2010)	14

Table 5: Overview of the highly cited papers in Social Innovation

Source	Motivation	Keywords	Theories	Methodology	Analysis
Austin, Stevenson, and Wei-Skillern (2006)	The article presented a framework that explains the differentiation and similarities between social and commercial entrepreneurship.	Commercial entrepreneurship, social entrepreneurship, similarity, differences	Social Entrepreneurship	Literature based conceptual modelling	Not Applicable
Mair and Marti (2006)	The study emphasises that prospective social change can be achieved through sustainable social entrepreneurship equation.	Social entrepreneurship, social change, Institutional entrepreneurship, Social capital, Social movements	Social Entrepreneurship and Structuration Theory	Literature based conceptual modelling	Not Applicable
Pol and Ville (2009)	The study distinguishes the idea of social and business innovation. Also, the suggests government to focus more on bifocal innovations	Business innovation, Social innovation, Pure social innovation, Bifocal innovation, Government support	Social Innovation	Perspective based conceptual modelling	Not Applicable
Mulgan (2006)	The study explains the process of social innovation in the lens of different stakeholders in societal perspective	Social innovation, scaling up, learning, evolving, idea generation, need identification	Social Innovation	Perspective based explanations	Not Applicable
Mulgan (2007)	The paper synthesises a detailed understanding on social innovation by proposing different stages in social innovation and by explaining how these stages can impact different stakeholders in social environment.	Social innovation, new social relationships, social entrepreneurship, design, technology, public policy, social movements, community development,	Connected difference theory of Social Innovation	Perspective based conceptual modelling	Not Applicable

		development			
Phills, Deiglmeier, and Miller (2008).	The paper explains that social entrepreneurship and social enterprises bring a positive notion to create social change. Through this argument, the authors support that social entrepreneurship can support this.	Social entrepreneurship, social enterprise, social change, non-profit organisations, social innovation	Social Entrepreneurship	Case based writing	Not Applicable
Cajaiba-Santana (2014)	The study supports that social innovation can contribute to social change by bringing on agentic and structuralist approaches together.	Social innovation, social change, institutional theory, structuration theory, institution	Institutional Theory, Structuration Theory	Literature based conceptual model	Not Applicable
Zahra, Gedajlovic, Neubaum, and Shulman (2009)	In different view, this paper discusses social entrepreneurship as a node to create social wealth. Besides this, the authors emphasise the importance of ethics in social enterprises.	Social entrepreneurship, social wealth, entrepreneurial search process, typologies, ethics	Social Entrepreneurship	Literature based explanations	Not Applicable
Murray, Caulier-Grice, and Mulgan (2010)	The study demonstrates the importance of social innovation with a special reference to emerging economy. The authors further build the concept of social innovation focussing upon the public, market and household economy.	Social innovation, public sector, grant economy, market economy, household economy	Social Innovation	Open book	Not Applicable
Eisenhardt (1989)	This paper describes on the process to formulate new theories using cases.	Theory building, case research, innovation,	Innovation	Case based theory building	Not Applicable
Mumford (2002)	The paper discussed the strategies and tactics used to generate and implement social innovation based on ten cases from Benjamin Franklin. The implications from this study can be used for modern organisational and societal developments	Social innovation, organizational innovation, leadership, eminent individuals	Social Innovation	Case based theory building	Not Applicable
Alvord, Brown, and Letts (2004)	The article compares seven cases on social entrepreneurship. From the comparison the	Development nongovernmental	Social Entrepreneurship		Not Applicable

	study provides seven propositions which benefits social, political, and economical developments.	organizations, sustainable development, social change, social entrepreneurship, scaling up			
Moulaert, Martinelli, Swyngedouw, and Gonzalez (2005)	The paper organises a debate around ALMOLIN (alternative models for local innovation) and SINGOCOM (social innovation in governance in (local) communities) research with an agenda to widen the meaning of social innovation	Social Innovation, governance, urban communities, neighbourhood development,	Social innovation and Social science Theory	Perspective based conceptual modelling	Not Applicable
Howaldt and Kopp (2012)	The paper brings a socio-scientific understanding of innovation against the backdrop of confusing political paradoxes related to social innovation	Social Science, Innovation System, Innovation Process, Social Practice, Innovation Policy	Social Innovation	Exploratory study	Not Applicable
Weerawardena and Mort (2006)	The study proposed seven propositions to indicate opportunities for social entrepreneurship in terms of; sustainability, environmental dynamics, risk management, value creation, and social innovation	Entrepreneurship theory, policy directions, management practice,	Grounded Theory, Social Entrepreneurship Theory	Exploratory study	Not Applicable
Moulaert (2013)	This handbook provides a coherent methodological perspective to present on social innovation both in theoretical and practical terms to contrast on social exclusion and social change	Social exclusion, social change, social innovation, cultural changes, political changes	Social Innovation	Perspective based conceptual study	Not Applicable
Peredo and McLean (2006)	The authors in this paper explained that social entrepreneurship is mainly aimed to create social value, discovering opportunities, employing innovation, tolerating risk, and managing available resources	Social entrepreneurship, innovation, risk management, social value	Social Entrepreneurship	Literature review	Not Applicable
Porter and Kramer (2011)	The authors highlight the importance of creating share value by diminishing the	Shared value, capitalism	Capitalism	Perspective based	Not Applicable

	scope of capitalism.			conceptual modelling	
Christensen, Baumann, Ruggles and Sadtler (2006)	The study introduces catalytic innovation as a subset of disruptive innovation and supports that the major aim of it is to create a social sustainable change.	Disruptive innovation, social change, catalytic innovators	Disruptive Innovation and Social Change	Perspective based conceptual modelling	Not Applicable
Dacin, Dacin, and Matear (2010)	The article reviews the literature available in social entrepreneurship and provides scope for future research. The article suggested that future social entrepreneurship researches can focus more on integrating conventional, cultural and institutional entrepreneurship frameworks	Social entrepreneurship, conventional frameworks, cultural frameworks, institutional frameworks,	Social Entrepreneurship	Literature Review	Not Applicable
Nicholls (2009)	The study uses neo-institutional theory to focus on the microstructures of legitimation for the development of social entrepreneurship.	Social entrepreneurship, legitimation, dominant discourses, paradigmatic developments, reflexive isomorphism	Social Entrepreneurship, Neo-Institutional Theory	Literature Review	Not Applicable
Battilana and Dorado (2010)	The study based on their analysis suggested that new type of hybrid organisations should create a common organisational identity to deliver a sustainable performance through which the social eco-system can gain benefit.	Hybrid organizations, organizational identity, socialization policies, commercial microfinance	Institutional theory	Case comparison	Qualitative and Quantitative comparison of data points

Table 6. Recent highly cited articles and books

Rank	Title	Source	Publication	Publication Year	Average per Year
1	Understanding the antecedents of consumers' attitudes towards doggy bags in restaurants: Concern about food waste, culture, norms and emotions	Sirieix, Lucie; Lala, Jan; Kocmanova, Klara (2017)	*Journal of Retailing and Consumer Services*	2017	5
2	The social direction of enterprises' innovation activity	Shpak, Satalkina, Sroka, and Hittmar (2017)	*Polish Journal of Management Studies*	2017	3.67
3	A bricolage perspective on service innovation	Witell, Lars; Gebauer, Heiko; Jaakkola, Elina; Hammedi, Wafa; Patricio, Lia; Perks, Helen	*Journal of Business Research*	2017	3.33
4	'Shaken, but not stirred': Sixty years of defining social innovation	Edwards-Schachter, Monica; Wallace, Matthew L.	*Technological Forecasting and Social Change*	2017	3.33
5	Engaging universities in social innovation research for understanding sustainability issues	Oganisjana, Karine; Svirina, Anna; Surikova, Svetlana; Grinberga-Zalite, Gunta; Kozlovskis, Konstantins	*Entrepreneurship and Sustainability Issues*	2017	2.33
6	Social innovation: a	Tracey, Paul;	*Innovation-*	2017	2.33

	window on alternative ways of organizing and innovating	Stott, Neil	*Management Policy & Practice*		
7	Testing the social innovation construct: An empirical approach to align socially oriented objectives, stakeholder engagement, and environmental sustainability	Segarra-Ona, Marival; Peiro-Signes, Angel; Albors-Garrigos, Jose; De Miguel-Molina, Blanca	*Corporate Social Responsibility and Environmental Management*	2017	2
8	Dynamics of social enterprises-shift from social innovation to open innovation	Yun, Jinhyo Joseph; Park, kyungbae; Im, choongjae; Shin, changhwan; Zhao, Xiaofei	*Science Technology and Society*	2017	1.67
9	Grey is the new black: Advancing understanding of new organizational forms and blurring sector boundaries in sport management	Misener, Katie E.; Misener, Laura	*Journal of Sport Management*	2017	1.67
10	A Cook's tour: Towards a framework for measuring the social impact of social purpose organisations	White, Leroy	*European Journal of Operational Research*	2018	1.5
11	Unlocking finance for social tech start-ups: Is there a new opportunity space?	Arena, Marika; Bengo, Irene; Calderini, Mario; Chiodo, Veronica	*Technological Forecasting and Social Change*	2018	1.5
12	Public service innovation and multiple institutional logics: The case of hybrid social enterprise providers	Vickers, Ian; Lyon, Fergus; Sepulveda, Leandro;	*Research Policy*	2017	1.33

	of health and wellbeing	mcmullin, Caitlin			
13	Social innovation in emerging economies: A national systems of innovation-based approach	Rao-Nicholson, Rekha; Vorley, Tim; Khan, Zaheer	*Technological Forecasting and Social Change*	2017	1.33
14	Is your organization conducive to the continuous creation of social value? Toward a social corporate entrepreneurship scale	Kuratko, Donald F.; mcmullen, Jeffery S.; Hornsby, Jeffrey S.; Jackson, Chad	*Business Horizons*	2017	1.33
15	Social innovation practices in the regional tourism industry: case study of a cooperative in Brazil	Quandt, Carlos; Ferraresi, Alex; Kudlawicz, Claudineia; Martins, Janaina; Machado, Ariane	*Social Enterprise Journal*	2017	1.33
16	A critical reading of the European Union's social innovation policy discourse: (Re)legitimizing neoliberalism	Fougere, Martin; Segercrantz, Beata; Seeck, Hannele	*Organization*	2017	1
17	Beyond the market new practices of supply in times of crisis: The example community-supported agriculture	Blaettel-Mink, Birgit; Boddenberg, Moritz; Gunkel, Lenard; Schmitz, Sarah; Vaessen, Franziska	*International Journal of Consumer Studies*	2017	1
18	An incubation perspective on social innovation: the London Hub - a social incubator	Nicolopoulou, Katerina; Karatas-Ozkan, Mine; Vas, Christopher;	*R & D Management*	2017	1

		Nouman, Muhammad			
19	Strategy, Resource Orchestration and E-commerce Enabled Social Innovation in Rural China	Cui, Miao; Pan, Shan L.; Newell, Sue; Cui, Lili	*Journal of Strategic Information Systems*	2017	1
20	Conceptualizing and operationalizing the social entrepreneurship construct	Dwivedi, Abhishek; Weerawardena, Jay	*Journal of Business Research*	2018	1

Figure 1. Mapping of research themes in the social innovation

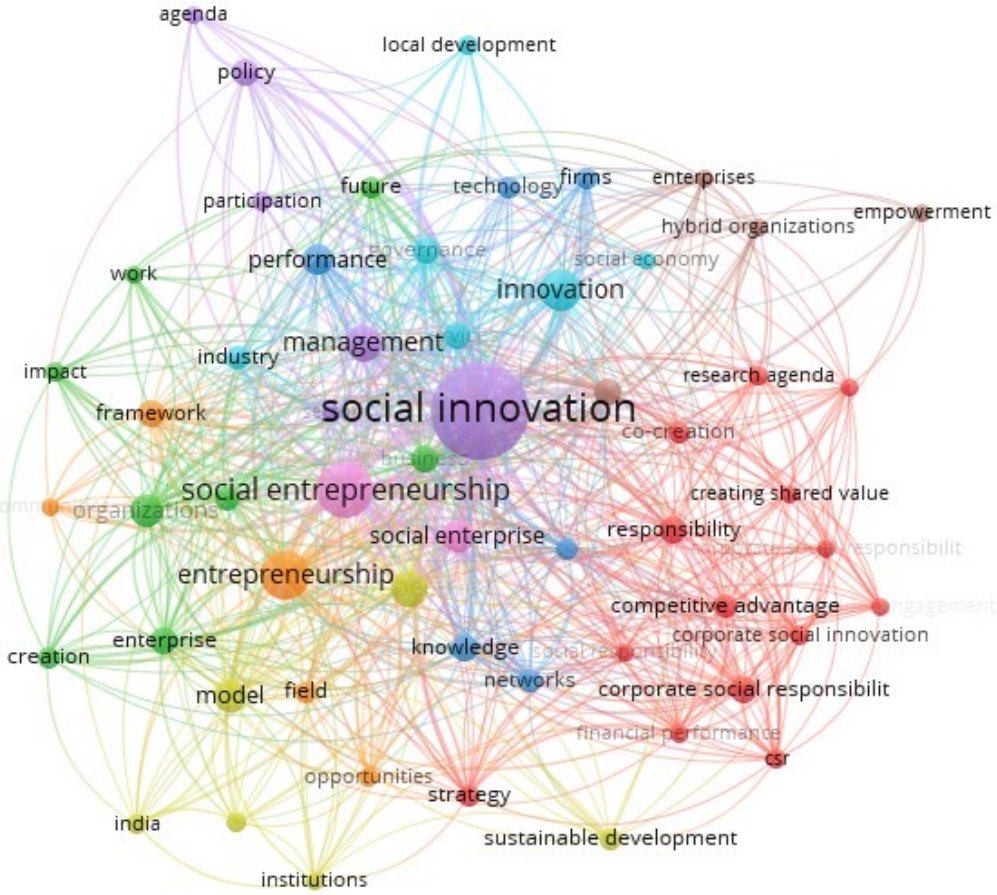
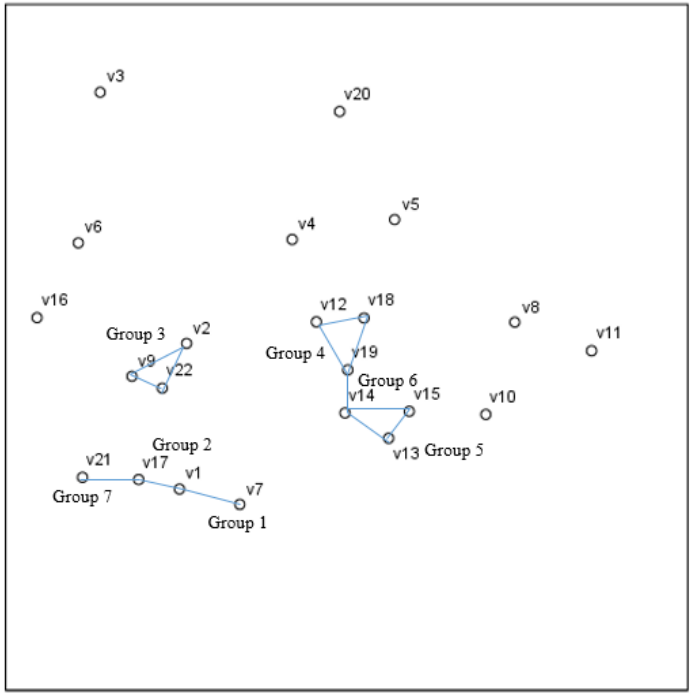


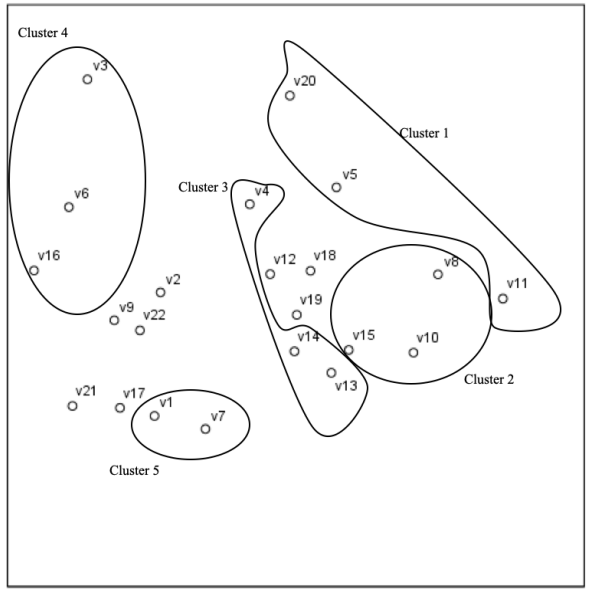
Figure 2. Multidimensional scaling: Social innovation knowledge structure



Stress value = .05960; Standardized distance = .25

V1=Alvord et al., 2004; V2=Austin et al., 2006; V3=Battilana and Dorado, 2010; V4=Cajaiba-Santana, 2014; V5=Christensen et al., 2006; V6=Dacin et al., 2010; V7=Eisenhardt, 1989; V8=Howaldt and Schwarz, 2010; V9=Mair and Marti, 2006; V10=Moulaert et al., 2005; V11=Moulaert, 2013; V12=Mulgan, 2006; V13=Mulgan et al., 2007; V14=Mumford, 2002; V15=Murray et al., 2010; V16=Nicholls, 2010; V17=Peredo and McLean, 2006; V18=Phills et al., 2008; V19=Pol and Ville, 2009; V20=Kramer and Porter, 2011; V21=Weerawardena and Mort, 2006; V22=Zahra et al., 2009.

Figure 3. Hierarchical cluster analysis



Notes: Ward's method

V1=Alvord et al., 2004; V2=Austin et al., 2006; V3=Battilana and Dorado, 2010; V4=Cajaiba-Santana, 2014; V5=Christensen et al., 2006; V6=Dacin et al., 2010; V7=Eisenhardt, 1989; V8=Howaldt and Schwarz, 2010; V9=Mair and Marti, 2006; V10=Moulaert et al., 2005; V11=Moulaert, 2013; V12=Mulgan, 2006; V13=Mulgan et al., 2007; V14=Mumford, 2002; V15=Murray et al., 2010; V16=Nicholls, 2010; V17=Peredo and McLean, 2006; V18=Phills et al., 2008; V19=Pol and Ville, 2009; V20=Kramer and Porter, 2011; V21=Weerawardena and Mort, 2006; V22=Zahra et al., 2009

Figure 4. Future model for the social innovation concept