

Impact Of Crowdsourcing in Organizations: A Systematic Literature Review (SLR) and Future Research Directions

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Abstract

Crowdsourcing is a very popular term in the management and business world in the 21st century. This study engages in the Systematic Literature Review (SLR) methodology to investigate the impacts of crowdsourcing in formal organizations while undertaking their businesses. In conducting the SLR process this study carried out the Text Analyses on the existing literature related to business and management fields. Then, Data Visualization tools were employed to understand how the ideas in the literature were connected. The Visualization tools are able to show how the condensed principles in the literature relate to the growth of the organization, produce the desired outcomes in implementations and influence the use of crowdsourcing according to peculiar situations of the organizations. Finally, the Text Analyses of current literature and the findings of this paper pave the focus of future fruitful research directions.

Keywords: Crowdsourcing; Systematic Literature Review (SLR); Organization; Management

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1. Introduction

The term “Crowdsourcing” was formally introduced by Jeff Howe in a Wired Magazine article in June 2006. As the concept of “Crowdsourcing” is quite new to the literature, there may be some confusions with other similar concepts such as outsourcing, e-commerce, social media or web. In very simple words, crowdsourcing means hiring outside workers on a contractual basis. According to Howe (2006), crowdsourcing means traditional jobs completed by a large group of workers by an open and free call. Howe’s definition also depicts that a large number of individuals can add value to the process of organizations which is based on co-creation (Chui et al., 2012; Greer and Lei, 2012). However, crowdsourcing is a model where organizations provide financial rewards to the workers from virtual crowds for completing tasks successfully through Internet technologies (Saxton et al., 2013; Faradani et al., 2011). From the above discussions, it is clear that crowdsourcing is mainly connected with human resource, financial, research and development areas of management. Since the last decade it has become a new focused area in business organizations. Subsequently, researchers too have been showing interest in this field since the inception of this new concept. For the past ten years many articles relating to empirical and conceptual studies on crowdsourcing (Ghezzi et al., 2017) have been published. The importance of crowdsourcing is reflected by the amount of crowdsourcing market whereby it was \$1 billion in 2012 and the figure was growing at a rate of more than 60% year over year (Schweissguth, 2014). Olenski (2015) found that crowdsourcing concept was used by 85% of the 2014 Best Global Brands in the previous 10 years.

Digitalization of the global world has changed the way of doing things in our daily lives and the digitalization of work has created a new form of employment containing crowd workers (employees) as well as organizations or employers (Leimeister et al., 2015). Horton et al. (2017) maintain that the number of employees and employers in the digital labor market is increasing tremendously globally. Pongratz

(2018) asserts that the global labor market is greatly influenced by the crowdsourcing platform. He also reiterates that workers of crowdsourcing are online workforce and crowdsourcing of work as online labor. Both companies and consumers are benefitting from crowdsourcing though exploitation and cheating are said to be the two negative sides of consumers (Djelassi & Decoopman, 2013).

Many organizations and consumers are accepting Crowdsourcing as there are benefits involved with it (Kohler & Nickel, 2017; Xu et al., 2015). Meanwhile, research on Open Innovation (OI) connected with crowdsourcing is getting more attention to researchers (Merz, 2018). Likewise, organizations are also using crowdsourcing to seek better solutions for their operations and management (Pollok et al., 2019). This study systematically examines the current literature on the impact of crowdsourcing in formal organizations in business areas. 123 research papers are finally selected for extensive review from top ranked journals around the world. This study is aimed to answer the research questions which are as follows:

Q1) What are the main areas of work and how are they connected to each other on the effect of crowdsourcing in formal organizations relating to business?

Q2) What are the dominating trends followed by the researchers in these literatures?

This manuscript has been divided into several sections. The second section describes the process of collecting research articles with search criteria and the tools used to analyze these research articles. In the next section (Section-3), frequency of keywords in the literature is shown and main ideas generated by researchers are explained. Section-4 clarifies the future scope of research on crowdsourcing in business and management. And finally, section-5 reveals the conclusion with the contributions of the manuscript to researchers, policymakers, and entrepreneurs.

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2. Methodology

Systematic Literature Review (SLR) is good to identify the current research gaps in a particular research area and examine the level of work done by other researchers on the topic (Kraus et al., 2021). Watson et al. (2018) apply the SLR process in their research and followed the three steps. In this study, the three steps (Hossain et al., 2020; Tukamuhabwa et al. 2015) are also employed namely 1) planning 2) screening and 3) reporting. Initially, exhaustive information from the literature has to be sought by the researcher.

In the first step, five popular databases i.e. Springer, Emerald, Wiley Online Library, EBSCO Host and ScienceDirect were exploited to collect relevant research papers upon which comprehensive reviews were done. Keywords for Searching Crowdfunding OR Crowdsourcing AND Management OR Business OR Organization OR Enterprise were keyed-in. A total of 42,392 items were found after searching the keywords on June 20, 2022. In the second step, almost 56% (23,592) listings were excluded for not having published journals where book chapters, conferences were not given priority. In the third step, around 26% (11,068) of total listings were omitted due to inappropriate subject areas and 7,732 (roughly 18%) papers were selected for the next step. In step four, few papers were eliminated because of other languages and 7,647 papers were selected. In step five, 7,287 (around 17%) papers were excluded for not matching the context to the area of this study. As a result, 360 research papers were retrieved from reputed database sources i.e. after restricting to articles/journal

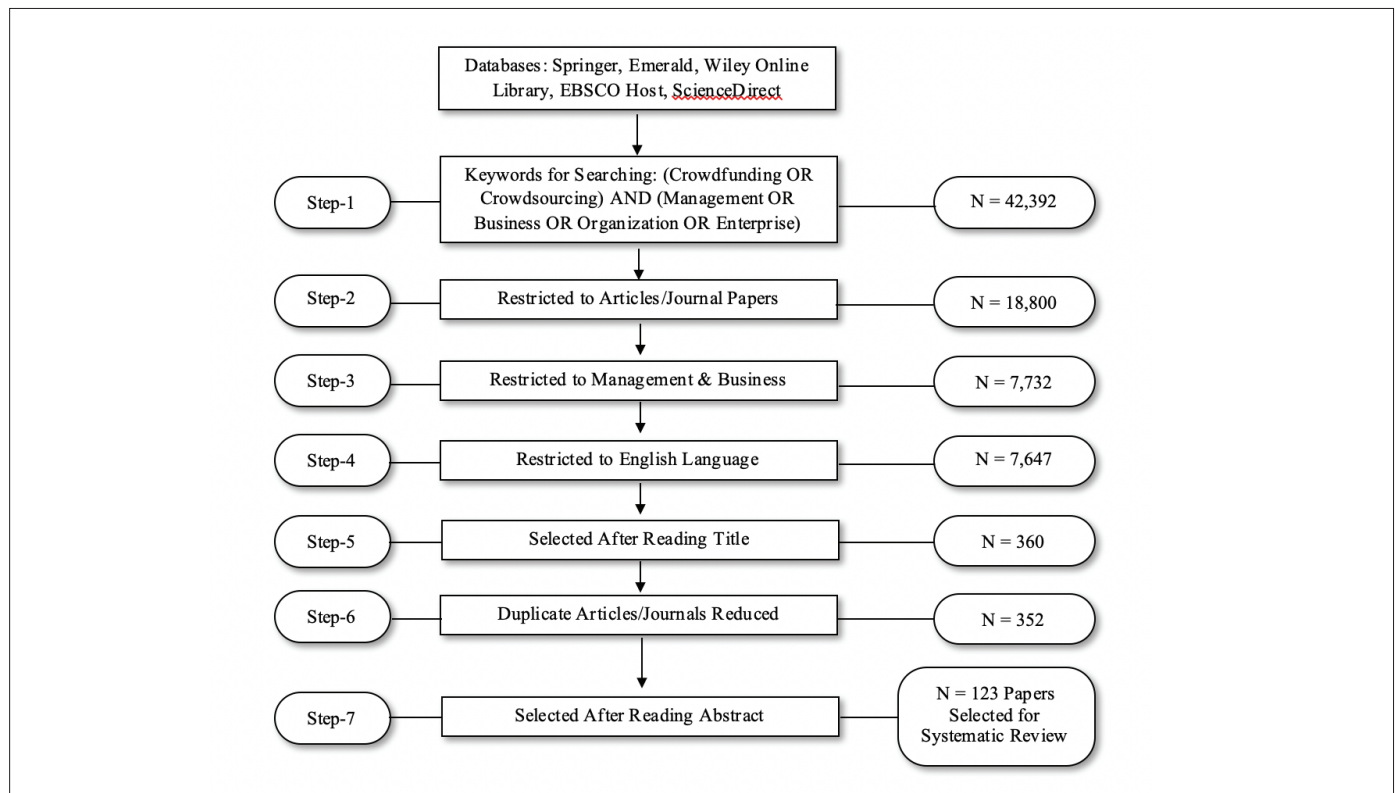
papers, management and business area, English language, and appropriate titles. The exhaustive source list is as compiled in Table 1. In the next step, after reading the respective abstracts thoroughly, duplicate articles and the articles that are not similar to the study's context were discarded. Finally, after the screening process 123 research papers were selected from 83 different indexed journals as shown in Figure 1.

In addition, Microsoft Excel, VOSviewer and Voyant Tool programs were used for the data analyses of this study. Microsoft Excel is the easy and available software which is capable to analyze data in cells with CSV exporting capability for other tools like VOSviewer (Caputo & Kargina, 2022). Collected data were analyzed by VOSviewer program to create the Network Visualization Map (van Eck & Waltman, 2010). This map helps to understand all the connections among the research papers which are very important for the SLR process (Kraus et al., 2020; Suchek et al., 2021).

Table 1: Papers from the different databases sourced by this study

Database	No. of Papers
Springer	82
Emerald	97
Wiley Online Library	47
EBSCO Host	99
ScienceDirect	35
Total with duplicates	360
Total without duplicates	352

Figure 1: Steps involved in the SLR Process employed by this study



3. Findings

Attention on this field from the researchers is growing gradually. This is illustrated in Figure 2 where only 10 research papers (8.13%) were published before the year 2014 and 68 research papers (55.28%) were

published after the year 2018. In the very beginning, Ordanini et al. (2011) used qualitative research to show the investment qualities of the consumers towards service organizations by considering three cases and Hutter et al. (2011) showed the behaviors of participants in different contests of crowdsourcing.

Figure 2: Number of research papers published by year (From 2011 – June 2022)

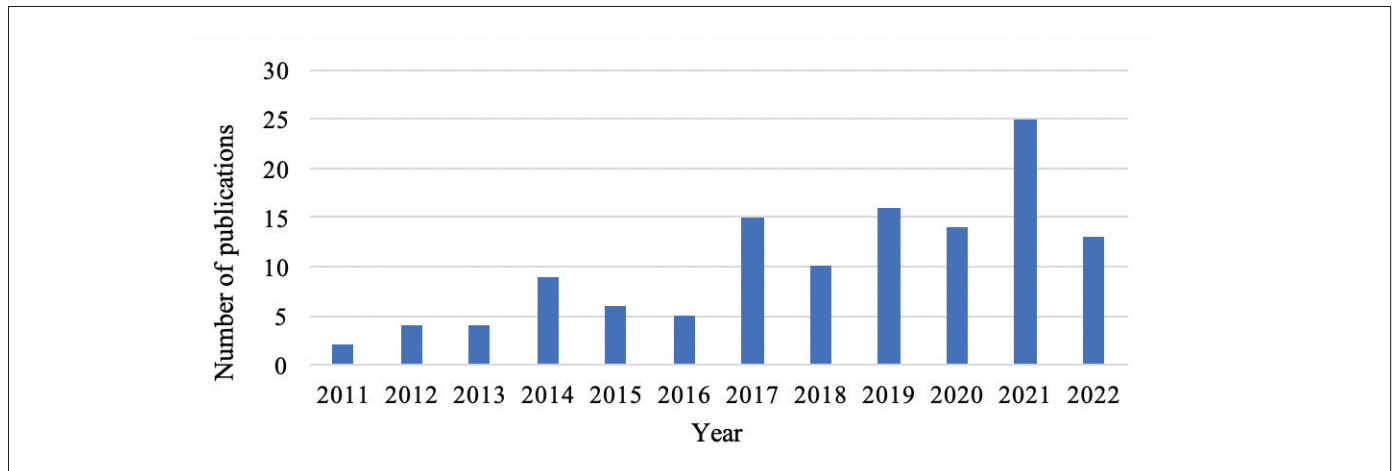
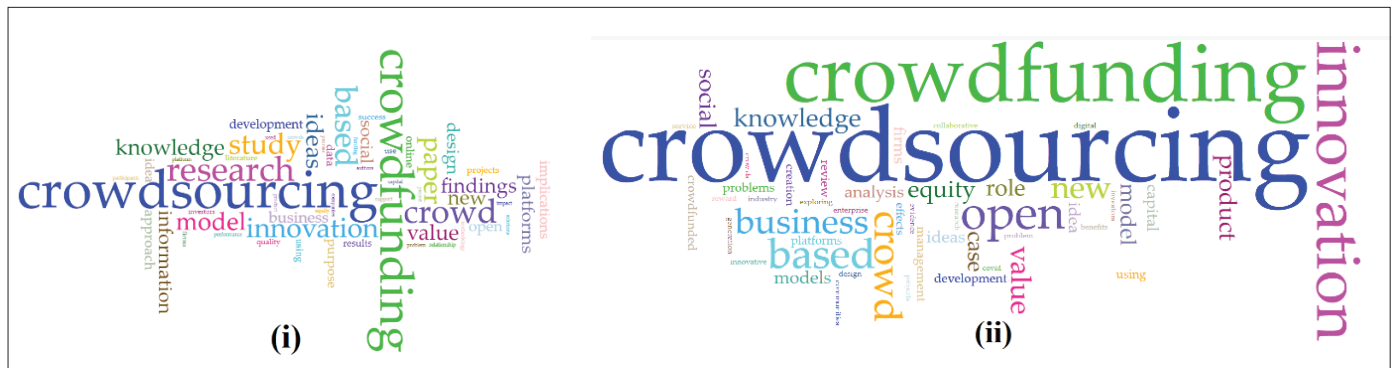


Figure 3(ii) shows the most frequent words of the subject matter of this study appearing in the titles of those 123 research papers. The most used words and their frequency include crowdsourcing (55); crowdfunding (35); innovation (24); open (15); based (13). Mean-

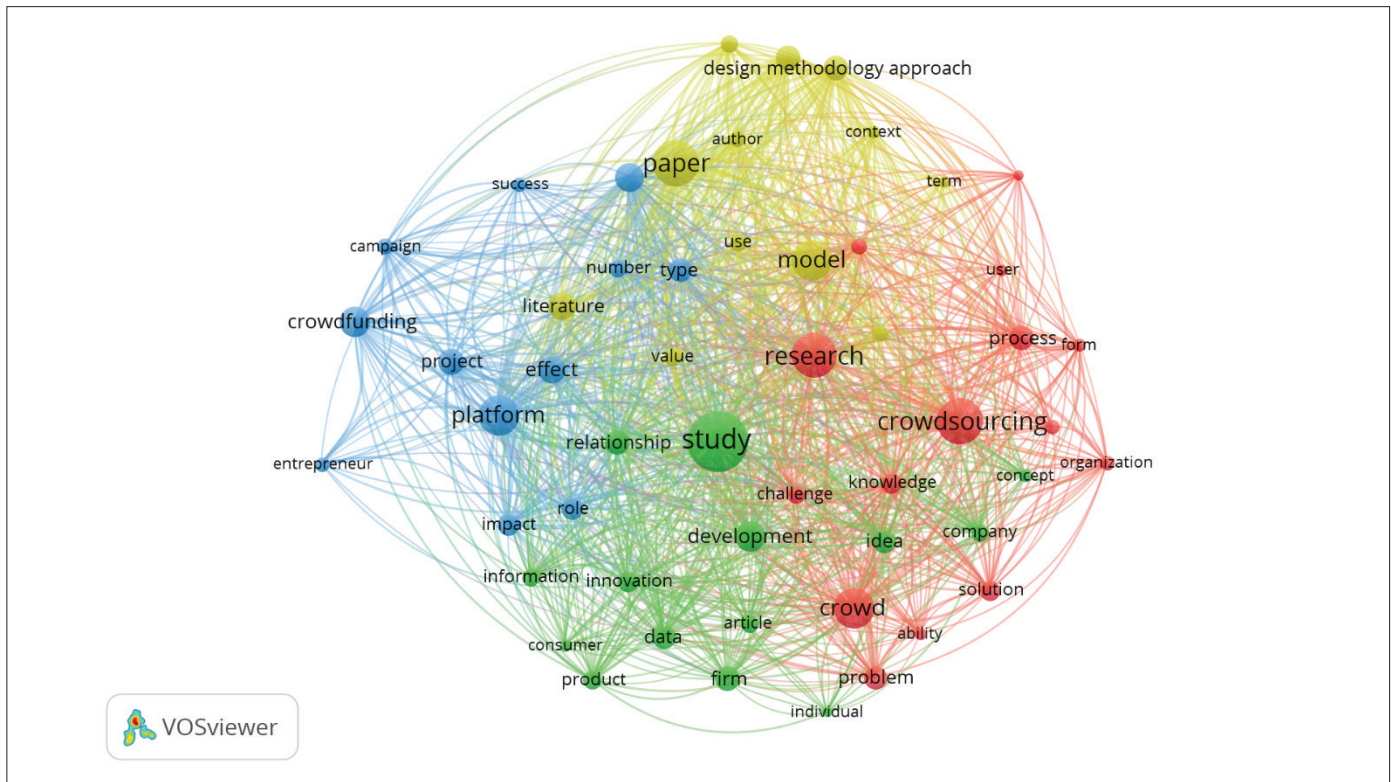
while, the most frequently used 55 words in the abstracts of the research papers is illustrated in Figure 3(i). The most frequent words in the abstracts are crowdsourcing (230); crowdfunding (187); research (123); crowd (109); based (103).

Figure 3 (i): Frequency of words in the abstracts, (ii): Frequency of words in titles of research papers.



3.1 Concentrated ideas in the literature

Figure 4 shows the Network Association Diagram of titles and abstracts of selected research papers with four concentrated areas of research from the SLR. The concentrated areas are discussed in four segments after reviewing 123 articles.

Figure 4: The Network Association Diagram of titles and abstracts

3.1.1 Crowdsourcing Challenges and Solutions (Cluster-1)

Crowdsourcing can be used to solve problems of distant search (Afuah & Tucci, 2012) and creative ideas (Lee et al., 2015; Hoornaert et al., 2017; Cillo et al., 2018; Malhotra & Majchrzak, 2019; Di Vincenzo et al., 2021; Vreede et al., 2021; Kokshagina, 2021; Chan et al., 2021) for the organizations in different sectors. In addition, goods can be returned by the customers to the retailers in an innovative way using the crowdsourcing platform (Chen et al., 2017). So many organizations are facing challenges to find accurate locations of the facilities. Better accuracy is achieved by a crowdsourced game which is used to solve the problems of facility location allocation (Allahbakhsh et al., 2019).

There are several challenges during collaboration in crowdsourcing which can be solved in different ways (Kokshagina, 2021; Cummings et al., 2012; Malhotra & Majchrzak, 2019). Human interpretation and loss of information are the two challenges that can be solved by certain steps (Wahl et al., 2022). Moreover, crowdsourcing can solve societal challenges with innovative ideas during the COVID-19 pandemic where accountability and transparency can be maintained (Kokshagina, 2021; Vermicelli et al., 2020).

Problems faced by the organizations are comparatively complex and different. To respond appropriately, better solutions can be provided by gathered knowledge from the open crowd to solve complex problems of the organizations (Majchrzak et al., 2021). Here, recognition and high rewards help to get many solutions of the problems from the crowd (Lee et al., 2015). There are four ways of managing

intellectual property when we seek solutions of the problems through crowdsourcing (Beer et al., 2017). Sometimes the behaviors of the crowds who will solve the problems are not clear to the organizations. Hence, factors affecting the behavior of problem solvers in crowdsourcing are clear from the case studies and a computer-based Simulation Model (Vuculescu & Bergenholtz, 2014).

3.1.2 Progress of the Organization (Cluster-2)

Managers, entrepreneurs, and investors will get help from the crowd during the growth of the organizations. Investors and entrepreneurs can get funds for their businesses through crowdsourcing to achieve sustainable development (Choy & Schlagwein, 2016; Al-Mulla et al., 2022). Project managers can achieve greater efficiencies and flexibilities through crowdsourcing which will increase success rates for the projects (Wilson et al., 2018). Moreover, management of the organization will get benefits from the customized ideas from crowdsourcing (Luo & Toubia, 2015). Online participants can give ideas about new product developments where we can expect more sales from the final products (Mladenow et al., 2014; Zhu et al., 2017; Herve & Schwenbacher, 2018; Toledo & Leon, 2019; Corsini & Frey, 2021). Organizations can engage the contributors from the crowds who can develop ideas in the long run for those organizations (Chen et al., 2012). However, organizations can improve the qualities of ideas by designing tasks systematically in open innovation crowdsourcing (Cheng et al., 2020; Lee et al., 2019; Wachs & Vedres, 2021; Vreede et al., 2021). More ideas will be accepted if the organizations seek ideas and spend longer times or sessions in crowdsourcing platform (Di

Vincenzo et al., 2021). Because contributors with diverse knowledge areas can help the organizations to get new and high-quality ideas (Hutter et al., 2011; Poetz & Schreier, 2012; Beretta, 2019; Liu et al., 2017; Malhotra & Majchrzak, 2019).

Organization needs other supports to achieve growth apart from funding and creative ideas. Business owners can implement knowledge from the crowds to increase efficiency of the digital services of the business (Flowers & Meyer, 2020). Again, online contributors of crowdsourcing can help the business organizations to increase the speed of process and product innovation (Tung & Jordann, 2017; Bagheri et al., 2020; Cripps et al., 2020; Shang et al., 2020; Johnson et al., 2022). So, it can be concluded that Research and Development (R&D) problems of the organizations are solved by crowdsourcing (Cummings et al., 2012; Toledo & Leon, 2019; Deichmann et al., 2021; Johnson et al., 2022).

3.1.2 Results After Implementations (Cluster-3)

Normally, customers around the world complain about the quality of the products and asymmetric information of the physical marketplace. Generally, consumers think they can receive better quality products from crowdsourcing, and they can achieve equality in the marketplace (Acar et al., 2021). Moreover, voting from the crowds in crowdsourcing has positive impact on the sales of the organizations (Garrigos-Simon et al., 2017; Troise et al., 2020). Crowdsourcing increases the interactions between customers/supporters and organizations which will improve the rate of success and the competitive positions of the organizations (Desai, 2015; Efrat & Gilboa, 2020).

Entrepreneur faces difficulty to collect fund from different sources which is very much important to start a business. Prefunding through crowdsourcing for the projects helps entrepreneurs to exceed their funding expectations (Wei et al., 2021). These fund collections are not so difficult in crowdsourcing for the entrepreneurs if they gain trust from the crowds. This is because trust is an important issue for the success of crowdfunding (Lui et al., 2021). The goals of crowdfunding can be achieved by specific ways when reward is associated (Madraza-Lemarroy et al., 2019). Organizations may face economic or natural crisis at any time which can impact the growth of the businesses. Managers during crisis moments can receive valuable information from the crowds in crowdsourcing (Ernst et al., 2017). In fact, it was revealed by several studies that an entrepreneur become successful when he/she is connected with the crowds in crowdsourcing (Kunz et al., 2016; Pietro et al., 2018; Borchers & Dunham, 2022). Furthermore, crowdsourcing platform helps the organizations to reduce corruptions in multiple ways (Adam and Fazekas, 2021). The managers have to introduce and implement what is called the “Fourth Industrial Revolution (4IR)” within their organizations to survive in the market. The 4IR actually deals with current and future technologies. Innovation, problem solving, product development, crowdsensing and provision of data are the areas of applications under crowdsourcing in this so-called 4IR (Vianna et al., 2020).

3.1.3 Situation Based Use of Crowdsourcing (Cluster-4)

Crowdsourcing can be used in different sectors of business. Real estate sector is heavily dependent on investment. Consequently,

transparency and simplicity in investment with diversification is possible in real estate section when crowdfunding model is used (Battisti et al., 2020). Again, crowdsourcing can be used to improve the quality of service within the service networks (Blair et al., 2019). Moreover, crowdsourcing can unleash the potentialities of pharma companies (Christensen & Karlsson, 2019). Crowdfunding model can also help the low-income and middle-class families to solve funding problems of housing in the cities (Liu et al., 2017). Additionally, Crowds can actively participate and give constructive reviews on the activities of government (Charalabidis et al., 2014). The Government can improve the services and activities to the business and citizens.

4. Future directions for research

This study has considered business and management perspective of crowdsourcing though the term is multidisciplinary. Nonetheless, it had examined the impact of crowdsourcing in organization or business perspective apart from the general perspective. Admittedly, while doing the SLR there is a chance of missing any paper which is relevant to the topic. This is due to the fact that at the initial stage of searching of the SLR process, a large amount of research papers had been collected and that they came from different sources. Naturally, certain relevant papers might have been missed out.

Even though there might be limitations of this study, certain future directions of research could still be surfaced from the findings of this study and other similar studies. It is good that future researches could explore the FastFocus thinkLet to know about the ideation work in crowdsourcing comprehensively (Vreede et al., 2021). Also, different research methodologies could be engaged to know the behavioral patterns of the contributors when organizations seek new ideas from the crowds (Cheng et al., 2020). Again, the influence of informal network structures outside the crowdsourcing platform on innovative ideas given by the crowds in the crowdsourcing platform could also be checked (Deichmann et al., 2021). A data analytics approach could be used to discover the factors influencing a successful campaign by the entrepreneurs in the crowdsourcing platform (Borchers & Dunham, 2022). Furthermore, other countries could be selected for data collection to validate the results of crowdfunding projects monitored by venture investors on product innovation (Shang et al., 2020). Additionally, non-traditional organizational forms could be used in future studies to understand the processes, conditions, and mechanisms of the challenges of crowdsourcing within certain time frame. (Kokshagina, 2021).

5. Conclusion

More organizations are embracing crowdsourcing to take advantage of this new concept in the market. This study examined the relevant articles with the SLR approach and connected the scattered ideas by analyzing the current articles on crowdsourcing in the context of management and business. This SLR will help entrepreneurs and policy-makers to understand the impact of crowdsourcing in formal organizations under various circumstances and in applying crowdsourcing to their organizations more effectively and efficiently. Moreover, this

review has some contributions for the researchers. First of all, it shows the key working areas of recent literature on the influence of crowdsourcing in formal organizations in business. However, this study has suggested some directions for future researches on crowdsourcing in business and management. Finally, this paper has provided an avenue for researchers on this specific area of research so as not to duplicate existing research works.

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