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Overview on Theory of Co-Creation for Competitive Advantage through Open Innovation in Modern Business Environment

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ABSTRACT

This paper aims to assess the potential of a company to create competitive advantage through open innovation in dynamic environmental context of organizations. The dynamic nature challenges the competitiveness of a firm demanding to implement novel corporate strategies to stay competitive in the market. Hence, firms view traditional methods of competing in markets to be as less reliable, and obsolete. There are three different theoretical perspectives identified in open innovation mainly as service science, innovation and technology management, and marketing and consumer research. The collaborative process of producing value with the support of all parties involved in the supply chain process means, having participants with diverse ideas. However, having a diverse group result in having individuals with varied interests and expectations that can pursue an individual agenda. Hence, it and can force people to undertake an additional risk by moving from their own comfort zones for better results. It also can create ambiguity and result in loosing common understanding, making it harder to achieve the common goals set initially.

Instrumental to open innovations in organization are the collaboration, culture and the structural changes that foster and facilitate success.

Keywords: *Business Models, Open Innovation, Open Science, Theory of Co-Creation*

1. INTRODUCTION

Open science is the foundation of the widely spoken open innovation concepts in recent past. The paradigm of open science became popular with e-science. E-science promotes collaborative use of geographically distributed resources through internet (Álvarez & Sintas, 2012). Alternative view on open and collaborative science is also explained in 'crowed science' 'citizen science', or 'network-connected science'. The two main important characteristics explained in open science are that, it allows several contributors to participate in a project and it permits the outcomes of the project to be shared among the contributors (Franzoni & Sauermann, 2014). The nature of openness, hence, requires high integrity and consciousness to be maintained, as part of ethics in sharing and communicating the knowledge (UNESCO, 2004). However, the policies of support for open science are relatively new in some countries (Argentina, Peru, Mexico) and there is still a lack of extension in the countries in the region (Betancourt, Celaya, & Ramírez-Montoya, 2014; Ramírez-Montoya, 2015). Open science innovation could bring immense benefits and growth potential in many contexts as it promotes knowledge sharing culture.

It is believed that open innovation visualizes both internal and external mechanisms available to set up competitive strategies for organizations. Further, as part of internal factors, it considers the institutional processes and the strategies while externally, its links to outside activities (Dahlander & Gann, 2010). While agreeing to the notion above, studies conducted by García-Peñalvo, García-de-Figuerola, & Merlo-Vega

(2010), Lichtenthaler (2011), Olalla, Sandulli, Menéndez, & Duarte (2014), Rodríguez-Ferradas & Alfaro-Tanco (2016) present an additional view that, open innovation is not only limited to internal factors of an organization, but also consider the intrinsic factors of the industry in which it operate. However, research conducted by Randhawa, Wilden, & Hohberger (2016) reported that there is not sufficient literature on theoretical perspectives that are external to the field to examine multiple facets of open innovation. The most common literature on open innovation in organizations are around role of knowledge, and does not consider the technology or the research and development perspective of the firm. Huizing (2011) also hold the view that the open innovation context needs further attention in research as it can explain the environmental factors that affect the performance of open business model. According to Wallin & Von-Krogh (2010), the challenge for firms is to find where the knowledge is created and how to integrate such knowledge in to practice as the limits become blurred. A possible explanation could be that co-creation of something new is an intellectual property; an intangible resource (Užienė, 2015), and have an influence over openness success. However, co-construction requires a bond of trust (Sloep & Berlanga, 2011), as it involves linkages both internally and externally. However, the e-portfolio created by co-creation is used in decision making points in an organization (García-Peñalvo, Conde, Johnson, & Alier, 2013). Therefore, this article presents an overview of the literature on open innovation and co-creation of knowledge in order to better understand context and challenges for open innovation business models. Findings of this will contribute to identify the vacuum in the theoretical frameworks and the contribution of directions for the practice of open access to knowledge.

2. METHODOLOGY

This article summarizes the concepts of open innovation based on previous research papers in organizational innovation. The key theoretical perspectives considered under the article is based on theory of co-creation. The key concepts covered in this article includes open innovation, theory of co-creation, open science, business

models. It fallowed a comprehensive literature review as the main research tool for the review. Authors employed journal articles published in the domain of marketing, social media and consumer behavior to build theoretical and empirical review. The main sources to collect the articles were carefully selected to maintain academic rigor and ethics avoiding uncanonized information sources. Authors made a discussion to propose research hypotheses in line with the main reviews presented.

3. THEORETICAL PERSPECTIVES: THEORY OF CO-CREATION

Theory is co-creation is a recent development in management literature, which permits organizations to create value through integration of its activities and processes. Widely spoken in early 2000s, there are some researchers conducted based on it, challenging the current assumptions of its branch theories. Co-creation is collaborative process of producing value with the support of all parties involved in the supply chain process. Originated as a branch of co-production, however, there are still some disparities in the literature to distinguish between the co-creation and co-production (Gronroos & Voima, 2013; Cova, Ezan, & Fuschillo, 2013).

Theory of co-creation was introduced by (Prahalad & Ramaswamy, 2000), by introducing the shifting roles in the marketplace. Accordingly, the traditional demand and supply conditions are vastly challenged by the market players in an economy through interaction and collaboration exist among the suppliers and customers. It occurs through both upward and downwards supply chain relationships while improving consumption and usage experiences (Gentile, Spiller, & Noci, 2007; Payne, Storbacka, & Frow, 2008) and stimulating product and service innovation (Sawhney, Verona, & Prandelli, 2005). In current economy, value is deemed to be assigned in the process of product development, while it is delivered in actual exchange process (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2004). According the theory of co-creation, the organization, suppliers and the consumers work in hand-in-hand in the value creation process. Hence, it challenges the traditional business models and the execution of strategy of an organization, as it allows them to perform different activities in the value chain. Digital business environment attributed by

social media influences many customer- driven value and relationship creation across the countries including emerging economies (Dissanayake, Siriwardana and Ismail,2019). Often, in service businesses, the production and consumption of the service occurs simultaneously, hence, co-creation has become an inherent characteristic due to its nature of operations compared to production operations (Solomon, Surprenant, Czepiel, & Gutman, 1985; Bitner, Brown, & Meuter, 2000). Ostrom, et al., (2010) pointed that, "service science as an emerging interdisciplinary field of inquiry that focusses on fundamental science, models, theories, and applications to drive service innovation, competition, and wellbeing through co-creation of value". Similar literature is also found in service-dominant logic (SDL) as well which explain relationship between the actors in the co-creation process (Gronroos & Voima, 2013).

Co-creation has also impacted on studies in consumer culture in which (Holbrook & O'Shaughnessy, 1988), as well as Belk, Wallendorf, & Sherry (1989), explains that consumption as a highly symbolic and cultural activity in which consumers give products and services subjective meanings. Accordingly, the symbolic and cultural value created by consumers become the most significant reason for the attractiveness of the consumers (Arnould & Thompson, 2005). Research conducted by (Arnould & Thompson, 2005; Penaloza & Venkatesh, 2006), also has strong evidence to support the co-creation hypothesis based on consumer culture theory (CCT).

Other studies of co-creation have covered in the field of innovation emphasizing on collaboration and integration of activities by organizations (von Hippel, 1986; von Hippel, 2005; Chesbrough, 2006). Previously published studies falls on several areas such as customer relationship management (Alavi, Ahuja, & Medury, 2012), platforms for consumer engagement using technology (Jonsson, Westergren, & Holmstrom, 2008; Zwass, 2010), and open business innovation platforms (Westergren, 2011). Such previous studies have themed them as business marketing (Liu, 2006; Cova & Salle, 2008), experiential marketing (Gentile, Spiller, & Noci,

2007; Payne, Storbacka, & Frow, 2008), communication (Muniz & Schau, 2011), and branding (Payne, Storbacka, & Frow, 2008; Merz, He, & Vargo, 2009).

However, the existing literature on co-creation theory is presumed to have contradictions in the literature. Studies conducted by Gronroos & Voima (2013), in the field of co-creation was limited to analytical aspects of value creation using SDL approach. Hence, the author appears to be over-ambitious in trying to create an all-encompassing paradigm by overlooking previously developed and established marketing theories (O'Shaughnessy & O'Shaughnessy, 2009). Further, they propose to have a more autonomous and reliable theoretical development apart from SDL's internal logic. Rather contradictory evidence of the theory of co-creation comes from the research conducted by Edvardsson, Tronvoll, & Gruber (2011) using social construction approach, which complement the SDL's micro-analytic perspective. Accordingly, social structure of the service provider and the consumer, their participation significance, dominance and the legitimacy affect the effectiveness of the co-creation process. Finally, consumer involvement in the value creation could be viewed as an exploitation of labour which is not duly compensated for (Cova & Dalli, Working consumers: the next step in marketing theory?, 2009), hence, have been criticized as means of manipulation (Zwick, Bonsu, & Darmody, 2008; Bonsu & Darmody, 2008).

4. EMPIRICAL REVIEW OF OPEN INNOVATION

The empirical studies in this filed mainly have been conducted using three key searches namely, open innovation, open science and co-creation of knowledge (Ramírez & García-Peñalvo, 2018). Accordingly, most studies related to co-creation has been conducted in western countries, mainly in United States, Brazil, Germany, Spain, Finland and the United Kingdom in the area of academic, business, society and culture.

Research conducted in open science discipline opens up the discussion of production and use of resources in socio-cultural perspective for co-creation and knowledge

sharing. Technology advancement has immensely supported organizations to engage in co-creation and knowledge sharing among value generators. Though there are significant theoretical contributions made in this area of studies, many scholars hold the view that, the empirical contributions still lack studies on social and cultural contexts (Ramírez & García-Peñalvo, 2018). Huizingh, (2011) and Wallin & Von-Krogh (2010) suggests that, future research should focus on the way in which open science should be shaped particularly with the culture. In addition, the contributions could be made on how public and private context would contribute to share the open knowledge (Ramírez & García-Peñalvo, 2018). Previous studies of Sloep & Berlanga (2011) and Užienė (2015) have identified that it is challenging to restrict the knowledge creation in collaboration, hence, the collaborative construction becomes, in this sense, substantial for the continued contribution in the area of open science.

In context of education, humanities, communication, mass communication literacy studies, qualitative data, studies related to civilians, among other subjects claim a greater attention of scientific research using open innovation due to ethical considerations. One possible implication according to the UNESCO (2004) is the fear of integrity, agreement and collaboration by the parties involved. Apart from ethical considerations, there are new methods of knowledge creation, parties contributing to knowledge creation, new interrelationships of disciplines, and new ways of knowledge dissemination that are part of organizational innovation. It is said that small and medium scale companies must focus on digital models for competitive and innovative business strength (Rassool & Dissanayake,2019). However, a greater portion of such knowledge is yet to discover as in terms of public policies, the funding structures, the closed systems linked to business models that are unrelated to the common good, to promote changes to business models, which practice culture of collaboration within the firms.

5. CASE REVIEW OF OPEN INNOVATION

Presently, most economic models are moving towards sharing economy such as sharing power banks, cars, accommodation, bicycles, working space to name few. It

is slowly progressing to other ends evading education as such in terms of sharing books and other knowledge resources and courses. The outcomes of the previous research conducted in business model innovation highlight that organizational culture, organizational structure, leadership and technological developments are important predictors of innovations (Bashir & Verma, 2018). Most established companies who have failed to innovate, have eventually died due to its inability or unwillingness to innovate as part of change implementation. (Chesbrough, 2006) claims that "It takes a strong organizational culture to navigate through these treacherous shoals, so that the local objectives of individual middle managers give way to the imperatives of the larger whole". Hence, for an organization to invent its business model, the firm should re-align and change its culture (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010), because, the novelty created by culture will foster innovativeness and flexibility with the integration of both external and internal knowledge (Phene & Almeida, 2008). The openness in communication among different functions enhance the knowledge sharing within the firm for innovation (Dove, 2002).

Scale of the organization also has implications on innovation. Large-scale organizations enjoy economies of scale advantages (Thompson, 1967), the improved relationships with shareholders and external parties for resources (Aldrich & Pfeffer, 1976) and an improved bargaining ability in competition (Zott & Amit, 2007). Due to the power, they pose in the market, there is some reluctance from the market for them to change the exiting patterns of work. When there is resistance to change the culture, known as organizational inertia the firm tend to naturally respond to things based on past experience and demonstrate a strong internal resistance to change (Nelson & Sidney, 1982). The researches argue that the organizational culture hence, will prevent the organization making structural changes to respond to market changes (Cavalcante, Kesting, & Ulhøi, 2011; Zott, Amit, & Massa, 2011) discouraging firm innovations (Nijssen, Hillebrand, Vermeulen, & Kemp, 2006).

Education industry research on shared education is an emerging concept with important practical significance for the advancement of open education for all (Xin, Zuo, & Huang, 2018). The formal education in school and the professional life, the learning time account for 20 percent while 80 percent of the hours account for informal learning hours. The later learning is focused on diversity, including all aspects of human life, work needs (Daoming, 2016). The formal education is well organized and the materials are provided by the teacher, while informal learning is unstructured, hence a vast range of rich educational materials exists. The diversity of the learning purpose demands variety of extensive and comprehensive learning materials. Despite, it will also build pressure on to the educators to provide diverse learning materials, which becomes impossible to meet from the educator's side, which create the need for integration. Integration creates the need for a shared resource platform and entrance for the open education needs through the integration of these three types of resources, so as to realize the socialized organization of the open education resources, and keep the dynamic, generative, continuous development and evolution ability of the learning resources. However, in integration and socialization of resources, social identity would matter (Xin, Zuo, & Huang, 2018). Where these resources came from and the quality of such resources are the concerns here. Additionally, there should be an appropriate provision of to access the resources that are newly integrated into education in an appropriate technology platform. However, integrating social curriculum resources needs a strong policy support from the national authorities as well as adequate funding to guarantee its success.

6. LIMITATIONS AND FUTURE RESEARCH

The past studies on open innovation were mainly focused on conceptual and theoretical studies without significant contribution in terms of empirical support on qualitative methods. Hence, the future studies on theory of co-creation and open innovation can focus on more explicit and systematic empirical research. Second, research in open innovation have focused mostly on the internal factors, which have an influence on innovation. However, many external factors such as industry life

cycle (Sabatier, Craig-Kennard, & Mangematin, 2012) shifting demographics or regulations (Baden-Fuller & Haefliger, 2013) competition (Johnson, Christensen, & Kagermann, 2008) needs attention. Thus, a focused effort is required on to study the influence of both internal as well external factors on open innovations within organizations.

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