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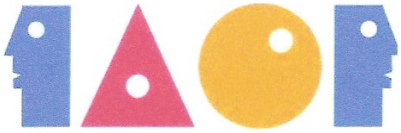

OPEN INNOVATION: THE ROLE OF ORGANIZATIONAL LEARNING CAPABILITY, COLLABORATION AND KNOWLEDGE SHARING

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Abstract

The study aims to explore the role played by the factors namely external collaboration, organizational learning capability as well as knowledge sharing on the positive outcomes of the Open Innovation. Three different propositions have also been developed in the paper based on the discussions made pertaining to the conceptualizations of open innovation along with its associated factors. All these discussions have been made in the form of a literature review, wherein only academic research outcomes have been included for deriving the required data. The developed propositions have also been proved for the attainment of the ultimate aim of the study.

Keywords: open innovation, collaboration, knowledge sharing

Introduction

The term ‘open innovation’ refers to “the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation” (Alberti & Pizzurno, 2017, p. 51). It can, thus, be stated that with the enhancement of the firm size as well as the expenses, the engagement with the open innovation also tends to increase.

Therefore, innumerable firms of small and medium sizes are found to be implementing this paradigm into the practice. The basic reasons behind the use of this concept are the reduction in market time, costs and risks along with the improved access to a particular level of expertise. Open innovation plays a significant role in the maintenance of a proper flow of knowledge and information both unintentionally as well as intentionally into the organization from its external partners (Alberti & Pizzurno, 2017). The collaboration amidst the various segments within the organization creates a considerable impact on its overall performance (Bogers, 2011).

The study therefore, aims at providing an in-depth understanding of the concept of 'open innovation', and the inclusion of the varied roles into it such as the learning capability, knowledge sharing along with collaboration within the organization. It also focuses on discussing the varied propositions developed on the issue of concern, by reviewing the previously prepared literature on the concerned issue. The propositions that have been covered in this study are knowledge sharing, organizational learning capability and external collaboration with respect to the concept of open innovation.

Literature Review and Propositions Development

Organizational Learning Capability and Open Innovation

According to Dominguez Escrig et al., (2016), Organizational Learning Capability refers to the factors or attributes of the organization and the management, which further contributes in facilitating the learning processes within the work environment. This, therefore, not only poses a positive impact on organizational performance but also on its innovation. Furthermore, this capability can be considered as a key element, which is associated with the improvisation of the organizational efficiency along with the potential to innovate as well as to grow in the long run.

On the other hand, it needs to be understood that the organizational learning capability plays the role of an important strategic means that contribute to the attainment of the organizational success on a long-term basis (Dominguez Escrig et al., 2016). It has further been stated by Peris-Ortiz et al., (2018) that the companies getting attributed with utmost competitiveness along with the potential to get adapted with the environmental changes must contribute largely in connecting varied types of open innovation with the human resource policies. The connections are naturally developed with the companies aiming to get their capabilities renewed such as know-how, new ideas evolving from experiences, knowledge, and ordinary potential along with the organizational routines. However, the development of the connections also relies on the competitors, environment, and partners along with the other related companies (Peris-Ortiz et al., 2018).

Sattayaraksa and Boon-itt (2016) provide a clear inference of the fact that the collaboration between the culture of innovation and organizational

learning poses a tremendous impact on the relationship that is shared between the process of new product development and the transformational leadership of an organizational CEO. This has been stated based on the understanding that, it is the foremost requirement of the company to develop new products for being able to sustain in the competitive market in the long run.

It has, in this context, also been stated by Mat and Razak (2011) that innovation is led by organizational learning, especially in the knowledge-intensive industry. This is because firms need to put huge efforts for the purpose of gaining competitive advantage as well as sustaining in the market for long-run (Mat and Razak, 2011). It has further been acknowledged by Mat and Razak (2011) that "organizational learning is considered by many scholars as a key to future organizational success" (p. 218). Moreover, the role played by organizational learning capabilities in the generation of innovation can be inferred from the fact that businesses in the present scenario tend to carry out the related activities through a constant learning process.

According to Jimenéz-Jimenéz et al. (2014), the process of innovation plays a pivotal role in the operations of a contemporary business firm. This enables the organizations to create a significant position for itself in the target market and lead itself towards the attainment of sustainable development in the long run. Proper knowledge management can thus be portrayed as one of the most important factors driving open innovation within an organizational environment (Jimenéz-Jimenéz et al., 2014). Another significant concept that is related to the innovations taking place in the organization and management is the strategic fit, which is said to be strongly connected with the contingency theory propounded by Tamayo-Torres et al. (2016). It largely concentrates on the organizational performance at the time of aligning the firm with its environment and its strategies as well as its characteristics. Contextually, for the attainment of competitive advantages and improvement of the performances, the organizational learning, as well as innovation, can be considered as the foremost capabilities. This can further contribute in the overall investigation of the manner, in which the organizational learning and the innovation can pose a completely positive impact on the decision-making of the managerial professionals of an organization. This further pushes them towards the emergence of the increased need for getting adjusted with the shortcomings in the dynamic environments (Tamayo-Torres et al., 2016).

Wang and Xu (2018), in the paper, provide a detailed discussion on the relationship amid the three factors namely radical innovation, open innovation, and customer knowledge management. In this context, it has been found that varied ranges of activities related to open innovation posed different impacts on the functioning of radical innovation, thereby affecting the learning ability of the organizations as a whole. The activities of open innovation are of two types, one is the activities of the inbound open innovation, which influences the radical in-

novation directly. Another is the outbound open innovation, which has an indirect effect on the combination of the organizational learning ability that is exploitative in nature and the radical innovation-related activities. However, the experiential outcomes clearly portrayed the fact that, with the support of organizational learning ability, radical innovation is indirectly affected (Wang & Xu, 2018). It has further been mentioned by Abdi et al. (2018) that innovation is the only factor driving the strategic concerns associated with increased level of innovation. This is mainly done by encompassing the augmentation of the levels of productivity, economic growth, business competitiveness, and sustainability among others. The concept also takes into consideration the fact that this factor of innovation is a continuous process of searching, learning as well as exploring the outcomes in the form of new techniques, products, and even new markets to a large extent (Abdi et al., 2018).

According to Dominguez Escrig et al. (2016), the contributions of such researches on organizational learning and innovation within workplaces are primarily found to surpass the academic sphere of both the organizations as well as the businesses. Our results thus, prove to be advantageous for the organization in implementing a favorable working environment, thereby attaining the innovation performance for accomplishing radical innovations in the long run. The challenges faced by the organization have been clearly illustrated as the push for innovation and competitiveness along with the continuous as well as insightful shifts. It is, therefore, important for the organizations to become aware of the fact that incorporating the behavior of an altruistic leader may influence organizational learning, which may further contribute to the attainment of radical innovation (Dominguez Escrig et al., 2016). It has, in this context, been mentioned by Wang and Xu (2018) that the products of radical innovation in order to succeed for an organization, it contributes largely in gaining long-term competitive advantages thereby improving the customer values, corporate performance, and reducing the costs among others. Wang and Xu (2018) also opined about the customer knowledge management, which aims at delivering continuous customer improvement and this can be obtained largely with the support of open as well as radical innovation both directly and indirectly. Therefore,

Proposition 1: Organizational Learning Capability is positively related to the effectiveness of the outcomes of open innovation.

External Collaboration and Open Innovation

According to Henttonen and Lehtimäki (2017), the concept of open innovation is considered to be an unending subject of research and, therefore, can be explored using both internal as well as external viewpoints. It has further been opined by Aloini et al. (2016) that one of the most important factors that are considered to be of great importance in understanding the concept of open innovation is the collaboration of the external resources and the partners. This collaboration is

found to contribute to a large extent in improving the potential of the firm in order to opt for innovation. It further relies on the viewpoint that both inventions along with innovation contribute largely in emerging as a successful attempt not only inside but also outside the organizational boundaries (Aloini et al., 2016). It has been argued by Antikainen et al. (2010) that innovation is not only the aspect which can improve the potential of the firm.

Moreover, monetary rewards cannot be considered as the appropriate means of motivating the users at all point of time. The intangible factors may also at a certain point help the organization in gaining the interest of the employees, thereby influencing them to work voluntarily for the attainment of the organizational goals. These intangible factors may include the aspects of acquiring knowledge of new ideas, community cooperation as well as entertainment, support, and usage of proper tools of cooperation (Antikainen et al., 2010).

Contextually, Lassen and Laugen (2017) stated that R&D has been organized in the firms internally, which further depends on the external contract research for the purpose of developing simple products or functions as well. The firms of all genres and those located all around the world are found to be contributing in every single step of its production process in the present scenario, starting from generation of the idea about the product to that of distribution. These can be made possible only with the support and assistance of an external collaboration such as R&D. It can further be found that new market imperatives have largely directed the organization in moving to the horizontally aligned operations from the vertically aligned ones. It has further resulted in shifting the competition to the networks of businesses from the single-level firms (Lassen & Laugen, 2017). However, it has been opined by Burdon et al. (2015) that co-creation acts as another significant concept, which leads to the clear vision alignment, the processes of supporting and the improvement of the inter-organizational collaboration skills. All these aspects seem to be some way or the other more helpful in nature as it suggests the manner, in which partnering relationships can be developed.

On the contrary, according to Huang et al. (2018) the innovative performances are limited by the factor of openness, since it is only concerned with the “quantitative” factors, thereby ignoring the “qualitative” distinction amidst them. Due to the presence of increased openness, the knowledge on the other partners along with that of the company deems to overlap their external knowledge with respect to acquiring the collaboration of homogeneous partners to assume the respective additional costs. Furthermore, the collaboration amidst the homogeneous partners leads to the improvement of technology, mostly at the time of including the similarities in the fields of technical backgrounds, products as well as industrial backgrounds (Huang et al., 2018). To this Yoon and Song (2014), stated that with the increasing complications of knowledge related to the technology innovation, the firms are found to have decided on extending their boundaries for the purpose of get-

ting their potentials complemented. Moreover, it has been found that open innovation has contributed largely in reinforcing innovation management, thereby considering an expanded range of disciplines such as economics, sociology as well as psychology.

Considering the already discussed factors, it can be stated based on the viewpoint of Tobiassen and Pettersen (2018) that the majority of the firms understand that they do not possess the confidence to completely depend on the resources associated with innovation along with the in-house capabilities amidst tremendous competition. They, therefore, seek for the proper implementation of the open innovation practices. Moreover, it has been found that high-technology oriented Small and Medium-sized Enterprises (SMEs), which aim at competing globally, must essentially implement innovation performance in practice, thereby bringing newer technologies into the market.

The open innovation thus needs to take into consideration the propensity of the individual firms to introduce the required innovations into their practices, which in turn, contributes to the acceleration of the market performances. This, therefore, makes the fact clear that the business organizations need to implement external collaboration into the practices. This collaboration can be done with parties such as the customers, who can help the firms to meet the future demands as well as for keeping up with their competitors. Myhren et al. (2018) focused largely on one form of open innovation i.e. the New Service Development in the service-oriented firms, which is similar to the New Product Development in case of product businesses. New knowledge is co-created in this case with the customers, based on which the process is initiated and commenced. The external collaboration is also predominant in the business-to-business (B2B) market as it also involves the inclusion of other players such as partners, competitors, and the suppliers as well.

It can also be argued that service-related open innovation is regarded as completely different from that of the products. These differences are not provided or mentioned in the previous researches. It can also be inferred that open innovation is largely benefitted by the external knowledge along with the accessibility of the new markets' channels contributing to the development of the new products and/or services (Myhren et al., 2018). Schneckenberg (2015) further mentioned open innovation to be a strategic concept leading to the innovation of firms as a part of the modern businesses. This further opens up the firm's boundaries for enabling the flow of scattered knowledge into the activities of corporate innovation from the industrial environments.

The primary reason behind its popularity as a strategic framework is that open innovation becomes important for the firms to acquire and sustain competitive advantage in the long run. This can be clearly understood with the support of an example of TechCorp, the leadership level of which is in con-

stant need for strategic innovation. With the passage of time, the company has been able to integrate its growth with internationalization, thereby following a process of structural differentiation (Schneckenberg, 2015). Therefore:

Proposition 2: The collaboration between firms is positively related to the effectiveness of the outcomes of open innovation.

Knowledge Sharing and Open Innovation

According to Bogers (2011), monitoring the regular trends increases the necessity of learning the pressure between the protection of R&D collaborations as well as knowledge sharing activities. The majority of the firms have thus come up with their boundaries to tap knowledge from the external world just for the sake of using the market as the firms' extension. Therefore, it is considered to be the best option for incorporating a strategic application into the collaborative agreements of a firm in relation to the other organizations. A varied range of theoretical perspectives has been used in the corporate world for the sake of exploring the knowledge sharing aspects and in general considering the collaborative agreements. Bogers (2011) further opined that transaction cost economics, as well as the resource-based view of the firm, are the two different theories, which contributes largely to serve as an appropriate environment for the strategic management. It has also been noted that firms from all genres integrate their surroundings' knowledge in the case of R&D collaborations for the purpose of developing an innovative technology. It can thus be stated that, "a central dimension in the tension field of knowledge sharing and protection is "knowledge characteristics" as the properties of knowledge determine how it can be both shared and protected (Bogers 2011, p.101) It also helps in determining the action that can be undertaken for supporting the knowledge exchange concept (Bogers, 2011). Ham et al. (2017), taking into concern the aspect of knowledge sharing has defined the concept of open innovation as, "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation, respectively" (p. 1166). Its basic assumption thus portrays the conjunction between the external as well as the internal knowledge and the firms' performance with regard to its improvement even within the rapidly changing working environment (Ham et al., 2017).

Contextually, Alberti and Pizzurno (2017) mentioned the outcomes of open innovation, which poses a tremendous impact not only on the policymakers but also on the managers of the organizations. This open innovation is thus said to have initiated from a mixture of different types of knowledge, especially the ones acquired with the support of the heterogeneous players' collaboration, which also includes the new start-ups. The managers, in this case, are found to possess the potential to develop the strategies of open innovation for the purpose of balancing their collaboration portfolio. This is

done in order to influence the startup managers and entrepreneurs to incorporate open innovation into their practices so as to contribute to the acceleration of knowledge absorption. Therefore, managers must be warned about the potential risks such as knowledge leaks, which can be eliminated easily through the use of open innovation (Alberti & Pizzurno, 2017).

A varied range of resources is required by the firms for resolving a large scale of innovation-related problems. This can enable the firms to possess accessibility to widespread information on a timely basis through their networks of innovation, thereby boosting up organizational learning. These partners in the existing network contribute largely to acquire the skills of innovation as well as opportunities for learning. This further highlights the fact that a firm's accessibility of "relative novelty of the knowledge" augmented the growing patterns of network diversity (Fisher & Qualls, 2018, pp. 247). This is therefore regarded as completely beneficial with respect to the exploratory innovation. However, it needs to be noted that a firm can attain its diverse outlook only based on the fact that all its partners are closely connected through the central position.

Thus, it can be inferred that the ties of innovation with centrality offer the companies to increase their potential for directly accessing the opportunities of learning. It further provides the firms with a connection to influence the incorporation of collaborative approach i.e., through knowledge sharing as well newer creation of the same (Fisher & Qualls, 2018).

According to Díaz-Díaz and de Saá Pérez (2014), for the firms to accomplish competitive advantage, a large amount of innovation must be considered. Therefore, it is highly important for the firm to make the investment most effective, especially for an appropriate working of the knowledge management process. This is because innovation can be considered as a reflection of a firm's potential to understand as well as avail accessibility and exploit knowledge sharing aspect to the utmost level.

The foremost reason behind the need of a large amount of investment for bringing about innovation is the fact that, a firm must be able to boost its awareness by acquiring the most optimum and appropriate knowledge from the external resources. Moreover, it is vital for the firms to motivate individuals to enhance their commitment towards the processes of articulating, learning, as well as knowledge sharing of what they have successfully acquired. Following this process can enhance organizational performance thereby facilitating the development of new processes as well as products (Díaz-Díaz, & de Saá Pérez, 2014). This has been agreed upon by Martinez-Conesa et al. (2017), who added that the majority of the firms gaining a competitive advantage in the present scenario are found to be depending largely on the external information and research collaborations for bringing about innovation globally.

Contextually, Natalicchio et al. (2017) opined that knowledge plays a crucial role in a paradigm associated with open innovation, which can be

scantly investigated through the adoption of knowledge management. The concepts of innovation and knowledge management are the varied streams of a research, which are strongly intertwined. Thus, knowledge is considered to be a segment of management and the most relevant resource of a firm leading to its sustenance and development in the long run (Natalicchio et al., 2017). With respect to the similar issue of concern i.e. innovation but in relation to the online platform, it has been stated by Randhawa et al. (2017) that knowledge collaboration between the online user communities and the business organizations is facilitated with the intermediaries of open innovation.

The mechanisms of these intermediaries comprise of the syntactic, pragmatic, and semantic aspects. These contribute largely in enabling translation, knowledge transfer and transformation within the organization in the modern competitive world. The exchange of knowledge in this case as per the traditional theories has been evident through three different modes namely the outbound, inbound and coupled. In this context, it has been noted that the knowledge follows a unidirectional flow both in as well as out of an organization in cases of inbound and outbound modes respectively.

However, the coupled mode is completely different from the other two forms as it has its base "on inter-firm dyadic collaboration and bidirectional knowledge flows" (p. 1295). Besides, the inter-firm networks are used by firms as an external source of innovation and knowledge. The exchange of knowledge in all these arrangements is mostly administered in a formal manner, structured as alliances and monetized with the support of licenses (Randhawa et al., 2017). Therefore:

Proposition 3: The more knowledge sharing between firms, the more effective the outcomes of open innovation.

Discussion

Open innovation is actually a paradigm, which encompasses not only the internal but also the external organizational factors associated with the organization of the firms for the purpose of attaining competitive advantage and sustaining in the target market in the long run. The first proposition has been developed for the purpose of determining the impact of Organizational Learning Capability of a firm on its implementation of open innovation. In this context, it can be inferred that Organizational Learning Capability plays a significant role in maintaining a proper learning environment with the workplace to enhance the knowledge and awareness of the management and employees regarding their work process. This may, therefore, improve their efficiency level and maximize the performance of the company as a whole (Dominguez Escrig et al., 2016). It can thus be evaluated that the developed proposition, "Organizational Learning Capability is positively related to the effectiveness of the outcomes of open innovation" has been proved.

In order to prove the second proposition, i.e., "The collaboration between firms is positively related to

the effectiveness of the outcomes of open innovation", the concept of external collaboration is considered to be of great importance. It is one of the most important requirements of a firm for carrying out its business proceedings as the external collaborators are the ones, who support it at varied instances. It was in this context, been inferred that the collaborators may include the competitors, partners, and even the suppliers to a large extent, who are responsible for enhancing the knowledge of the firms in varied genres, influencing the positive impacts of open innovation on the organizational performance (Myhren et al., 2018).

The last proposition that has been developed for discussion is on Knowledge Sharing, which is considered to be the most important task of a business firm. This knowledge is one of the primary resources for any organization to innovate or to gain competitive advantages in the long run. Majority of the companies even invest a large amount on this process of knowledge sharing as the entire work process depends on the knowledge that is shared not only within the firms, but also with the external world such as the customers (Díaz-Díaz, & de Saá Pérez, 2014). Therefore, the third proposition, "The more knowledge sharing between firms, the more effective the outcomes of open innovation" also gets proved.

Conclusion

From the discussions made in the earlier section, it can be concluded that open innovation takes into consideration all the different aspects that can lead an organization towards sustainable development and sustenance in the market for a longer span of time. These aspects mostly comprise of the three elements namely knowledge sharing within and even outside the firm, the entry or inclusion of external collaboration/partnership and lastly the proper implementation of the organizational learning capability within the operational procedures. In this context, it has been understood that the foremost requirement of an organization to meet the regular needs of its target customers is the factor of innovation in all its fields of operations.

Therefore, the companies all around the world are seeking for those factors, which can help them to become innovative in their proceedings, operations, and products as well as the services in the long run. While research on these factors three different propositions could be developed pertaining to the concept of open innovation. The first proposition clearly helps in depicting that the outcomes of open innovation are highly effective in nature with respect to the Organizational Learning Capability i.e. creation of a learning environment within the workplace. The second proposition that has been developed focuses on the context of External Collaboration, which refers to the inclusion of external partners such as the supplier firms.

The effectiveness of the open innovation's results also has positive impacts due to the inclusion of the external collaborators. Lastly, the third proposition is about knowledge sharing, which refers to the flow of knowledge both in and out of the organizational environment. In this context, it

has been proposed that with the increase in the level of knowledge sharing with the firms, the effectiveness also rises.

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