

# The Contribution of Open Innovation towards Organizational Effectiveness

Missal Khan

**Abstract**— The basic purpose of this review paper is to explore the contribution of open innovation leading to organizational effectiveness. To achieve firms' goals, they require to adopt and bring open innovation strategy in practices, leading to their survival in competitive environment. Firms' innovative activities play crucial role for its survival and future development. It is assume to achieve goals and objectives firms must use inbound (outside-in) and outbound (inside-out) innovative practices to make improvement in its overall strategy, business model, processes, knowledge, product and services. To retain and maintain in market firms must make them capable to make them ready to meet market challenges. Open innovation produces, enhances efficiency and effectiveness inside firm needed to rise, accept and provide support new thoughts involving consistent development in the functions and administration of the firm. It is proven that only innovative, competitive, competent and knowledgeable industries are is position to achieve their goals and objectives to meet expectations of their stakeholders. Firms involved in open innovation practices are capable to survive and boost their business in future.

**Index Terms**— Open Innovation, Organizational Effectiveness, Inbound and outbound Innovation, business performance, Research & Development (R&D)

## 1 INTRODUCTION

Open innovation is the gateway to novel paradigm for establishing innovation. Open innovation was basically introduced by Chesbrough (2003) in his book open innovation. An outside-in (inbound) improvement and innovation approach driven by customers can be furnished with an influential customer based methods for supporting the decisions and requiring the direction required to achieve organizational development and long-term success (Award, 2004).

The philosophy of open innovation is that a firm should use inbound and outbound ideas, knowledge and technology to create values as well as contribution towards organizational development and success.(H. W. Chesbrough & Appleyard, 2007).

Innovations are central building blocks of today's economies. Organizational as well as individual know- how and imaginations are used for forming innovative processes, products and services. The innovations have key control on the national economies and creating competitive advantage between many nations of the world(Santonen, Kaivo-oja, & Suomala, 2007).

According to literature firms innovation is an engine to enhance and develop their performance and make them competitive in the market. Internal firm's efficiency, improvement in process and team structure is the main focus of the management.(Jong, Vanhaverbeke, & Rochemont, 2008).

Firms are feeling dire need and market pressure to improve and enhance their abilities to innovate. Executives has initiated

to bring innovation in practice in their firm on priority lists, they claim that ideal ideas are not always coming from internal R&D. Companies are focusing to explore ideas from outside firms; innovative approach by using tools like strategic alliances, licensing and joint venture to bring the advantages of free trade and new ideas(H. Chesbrough, 2004).

It is best practice to carry out open innovation research through networks and partnerships because innovating new practice in isolation is over. It is not expected that a firm know all the answers, by working together they can come up with viable solution to the challenges ahead. (Sword, 2008).

Open innovation is primarily the purposive flow of knowledge both inflow and outflow to accelerate inside innovation and expand the market outside practice of innovation (Gassmann, Enkel, & Chesbrough, 2010). As idea of openness is concerned; it is impossible on some extent for single organization to innovate in isolation. It has to engage with external partner to acquire knowledge ideas and resources as well to compete in competitive environment (Dahlander & Gann, 2010).

Open innovation, being underlying within the process, product, and service in an organization as it develops naturally, such as implementing innovative ideas and modifications through product, process or service improvement, bonds of innovation buildups (Rahman & Ramos, 2013).

According to executives open innovation plays role of engine

to increase and develop firms performance to make them strengthen, competitive and innovative in the market. Most of firms have paid utmost management attention to focus on internal competencies to develop process, effective team structure, cross functional interaction and efficient decision making to accomplish their goals and objectives (Jong et al., 2008).

## 2 LITERATURE REVIEW

Recently, open innovation has grown up in reputation and effectiveness to increase success, efficiency in processes within the large organizations. However need for open innovation exists in small and medium-sized enterprises to improve and develop management functions and make them more competitive (Town, 2012).

According to literature review external knowledge play a significant useful role as far as innovation within a firm is concerned. In Open Innovation, outside knowledge plays an equivalent role to that afforded to inside knowledge in the prior conception. Equal importance should be given to inbound knowledge, in comparison to outbound knowledge (Tuomi, 2009). Companies and academics are trying to understand and implement concept of open innovation in practices (Kissimoto, 2008).

It is assumed that only high-tech and multinational companies use open innovation practices. But in reality small and medium sized enterprises use open innovation to enhance their management capabilities (van de Vrande, de Jong, Vanhaverbeke, & de Rochemont, 2009).

The fundamental concept of open innovation is that firms are logically designed in such a manner that their functions affect and being affected by other entities in the business atmosphere (Uduma, Ibeh, & Ogbuji, n.d.). Firms are feeling a lot of pressure to develop and improve their innovative capabilities. Besides of hard-hitting economic times management try their level best to initiate innovation related practices on top priority keeping in view that best idea always come out of their R&D lab (Innovation, 2002).

The phenomenon of open innovation has become increasingly significant for practices and theory as well over the last decade. Due to shorter innovation cycle, development increasing cost, industrial research and scarcity of resources (Gassmann & Enkel, 2004).

National Open Innovation approach based on principles of Triple Helix model suggests that a coordination among uni-

versity, industry and government are required to adopt open innovation practices to increase competency level of the firms (Santonen et al., 2007). Management of a firm plays a crucial role bringing monetary value, creativity and technological knowledge in practices to support concept of open innovation in reality (Meer, 2007). In open innovation practices external knowledge has equal value and importance as compare to internal knowledge (Rasmussen & Rasmussen, 2007). Concept and practices of open innovation getting more popularity among SMEs to meet market need and demand (Jong et al., 2008). Usually, most developed large firms relies on their internal R&D department and are being in practice to adopt close innovation model it means all innovations activities are in the control of the firm. This closed model is in contrast to open innovation system describes a novel framework of strategy to profit from innovation (Brunswick & Ehrenmann, 2013).

To achieve firms growth and longterm success improvement in innovation are required and must be driven by customers. Out side-in (inbound) innovation approach can facilitate firms with most powerful and customer originated practices for supporting decisions and provide needed direction to accomplish organizational growth and retain in the marketplace. Inbound innovation approach offers firms an alternative distribution based performance approach (Award, 2004).

Firms engage in open innovation practices require a huge expenditure for R&D activities. Business involve in services are more active in innovation activities than manufacturing. Services providers are more attached to scientific and technical knowledge than market based knowledge as related to manufacturing firms (Westergren & Holmström, 2012).

Different innovation practices in a firm have the same fundamental intentions. This reveals that different organizations engage themselves activities like venturing, interfirms participation, customer involvement for improvement in product development, new technology integration and pacing with current market requirements. Beside these employees involvement in innovation process is required to achieve set objective (Jong et al., 2008).

It has been investigated that for a long period of time closed innovation resulted well progress in many industries. Companies internal R&D come up with breakthrough discoveries, which led them realise more sales and higher profitability and efficient performer (Wang, Jaring, & Wallin, 2009).

Open innovation requires intra-organizational bonds, co-development and collaboration among universities and external firms, which included both intrinsic and extrinsic employee motivation to innovate and business model where value establishment is recognized and supported (Study, 2009).

Internal development works when consumer preferences about product is well known, whereas on other hand external development requires where customer needs are highly diverse or not yet absolutely understood in such as case innovation approach, design and technology have to be developed (Boudreau & Lakhani, 2009).

Business model is a mediating construct in between technology innovation and economic values. The key role of the business model is to modify technology into value results in firm profitability. (Wang et al., 2009).

Open innovation bring required results when firms establish associations with other firms have competencies in innovations and are market leaders. Firms collaborate with technology providers, customers and supplier to enhance its inside innovation potentials or to expand the market for the out-bound use of inbound innovation (Dewes, 2010).

Companies tend to commercialize new knowledge, ideas and technologies via a business model. Companies invest a lot of money to explore and develop new technologies, knowledge and ideas, at the end they have not enough investment to innovate the business model to pass these inputs (H. Chesbrough, 2010).

Open innovation is the field where a lot of progress and research is needed, it is still a young field at its early stage. It is a broad field which has a lot of potential and research opportunities for researcher, practitioners and policy makers (Gassmann et al., 2010).

Firms with futuristic approach manage to create synergy between in-house processes and outside existing ideas. These firms may be talented to benefit from both internal and external creative ideas to develop new products and services (Dahlander & Gann, 2010).

Open innovation is newly developed management model which has started from a small club of innovation specialists to most dynamic high-tech firms, to a broadly discussed and applied innovation practices to achieve optimum results (Mounoud, 2011).

Both business model and strategy play a vital role to capture and create value within a business model. An effective innovation management approach has nothing new, but it must have proactive approach to generate new innovative ideas, knowledge and make business models so flexible to adopt and implement new innovative practices (Eagar, Oene, Boulton, Roos, & Dekeyser, 2011).

Firm practicing open innovation need to develop internal R&D capabilities to scan external knowledge, make them enable to absorb this knowledge and seek help to get return from new innovations (James H Love, 2011).

Firms that desire to stay ahead of their competitors in innovation management necessitate to keep a careful eye on the emerging hotspots, like Proactive Business Model Innovations, Customer-based Innovations, Frugal Innovations, High Speed and Low Risk Innovation and Integrated Innovation, and make certain they are well positioned as they grow (Eagar et al., 2011).

Executive and firms most focus on harvest and protect existing practices rather than aim to develop new innovative ideas. Only proactive people and organizations keep on changing trends, new ideas, needs, opportunities and technologies to make themselves competent and achieve their goals and objectives (Mounoud, 2011).

Open innovation has got attractiveness and success over the last decade due to its effectiveness and speed in processes, products and services in huge organizations. Nevertheless, Small and Medium Enterprises (SMEs) require to improve and develop innovative approaches to reduce cost and turnaround times to become more competitive and successful (Town, 2012).

Established companies use open innovation as key tactical element and they use to generate and commercialize open innovative practices. Small and Medium Enterprises seem more flexible to adopt and practice open innovation strategies to become successful. However, trivial research exists on the implementation of open innovation among Small, micro companies and SMEs and small (Katja et al., 2013)

Adoption of open innovation strategies in entrepreneurship facing ever increasing challenges and competition due to its globalization. A lot of research, case studies and practices on adoption of open innovation do exist on large firms and corporates but rare researcher contribution is witness through

literature on entrepreneurship known as SMEs (Rahman & Ramos, 2013).

In traditional innovation product life cycles are too short and continuous changes in technologies do not represent viable response. Open innovation is the only alternative which give viable, timely and quick response to provide the solution (Flor, Alfaró, Zarco, & Oltra, 2013).

Suppliers, customers, users, competitors and universities are the active actor mostly involved in open innovation practices in the global community. Whereas, open source platforms, joint venture, licensing, alliances are the main sources of open innovation and take active part to promote and develop innovative practices in various development communities (Felin & Zenger, 2014).

The real concept of open innovation has been enriched through flow of inbound knowledge from other theories and frameworks in innovations, strategies and economics. On the other hand outbound flow of knowledge have been shaped and influenced innovation studies and other capacities of social sciences research (West, Salter, Vanhaverbeke, & Chesbrough, 2014).

The purpose of adoption of open innovation is that organizations desire to adjust their external as well as internal functions to quick response to environment demand, effective and efficient management operations and to maintain, improve and develop their performance (Rangamiztousi, Prof, & Ismail, 2015).

Open innovation is known as next generation innovation model for firms which contribute to secure future, enhance competencies level and results in competitive advantage. Open innovation practices in the service industry is a mostly understudied research area (Virleé, Hammedi, & Parida, 2015)

There are three basic open innovation approaches used by different organizations and executives to achieve desired goals and objectives. These three approaches are inbound, outbound and coupled open innovation. These three approaches comprise the complete process of open innovation, coupled approach of open innovation is the best representation of open innovation which refer to co-creation with complementary partners, cooperation, alliances, joint venture give and take leading to success of the firms (Chou, 2016).

According to Wang and Ahmed (2004) there are five fundamen-

tal elements of organizational innovation performance which include market innovation performance, process innovation performance, product innovation performance, innovation behavior performance and innovation performance (Hendrawan Muhammad Rosyihan & Business, 2017). Open innovation has obtained greater consideration academic research and industry practices. Outside - in open innovation includes company's innovation processes leading to external inputs as well as contributions. Inside - out open innovation needs organizations to establish trades and business models (Bogers, Chesbrough, & Moedas, 2018).

The concept of open innovation has become a central strategy that associates a firm's knowledge competences and performance. The purpose of open innovation is relying on a firm's abilities of internal and external technology management practices to achieve optimum performance (Shin, Kim, & Jeong, 2018).

With passage of time product and service are becoming complex, shorter in life cycles and changing market demand needs to develop innovation to sustain firm's competitive advantage. Firm's capabilities known as organizational intelligence enable it to learn from environment (Rauter, Globocnik, Perl-Vorbach, & Baumgartner, 2018).

Innovation related to both product and process has two dimension i.e. new or improved, whereas method are needed to be new. Moreover, new and improved product must be introduced in the market. As far as operation of the firm is concerned process as well as method required to be implemented in actual in the firm. This is continue process till the moment the two condition have been met (Gault, 2018).

## Conclusions

This paper provides a conceptual background for open innovation. Open innovation is the main driver to enhance business capabilities to achieve specified goals and objectives. The Purpose of this paper was to explore how the firms are using the learning cycle to improve and develop the open innovation initiative. Open innovation being the knowledge source, encourages firms to take advantages of internal as well as external ideas to increase their capabilities to enhance their core competencies. Information Technology plays a key role to develop and enhance productive inflow and outflow of knowledge to support internal innovation process.

It is presumed that only high-tech and multinational companies benefit from open innovation practices. Nevertheless, small and medium sized enterprises (SMEs) exercise open innovation to enhance their management capabilities. Moreover, service sector firms use open innovation practice to en-

hance their services quality to satisfy customer needs. Firms in service business are more reliant and prefer to use external sources for innovation for internal development rather than sharing internal sources externally.

It is important for firms to adopt open innovation in practices to seek advantages of rich external intellectual resources to confront the market challenges. Researcher has explored that firm involve in open innovation practices seek higher level of knowledge interaction, sharing and collaboration which results in organizational effectiveness.

## References

- [1] Award, Q. (2004). AN " OUTSIDE-IN " APPROACH TO DETERMINING CUSTOMER-DRIVEN PRIORITIES FOR IMPROVMENT Improvement " " Keep Up the Good Work " " Lowest " Possible, 5(1).
- [2] Bogers, M., Chesbrough, H., & Moedas, C. (2018). Open innovation: Research, practices, and policies. *California Management Review*, 60(2), 5–16. <https://doi.org/10.1177/0008125617745086>
- [3] Boudreau, K. J., & Lakhani, K. R. (2009). How to Manage Outside Innovation How to Manage Outside Innovation, (50413).
- [4] Brunswicker, S., & Ehrenmann, F. (2013). Managing Open Innovation in SMEs : A Good Practice Example of a German Software Firm, 4(1), 33–41.
- [5] Chesbrough, H. (2004). Managing open innovation. *Research Technology Management*. <https://doi.org/10.1080/08956308.2004.11671604>
- [6] Chesbrough, H. (2010). Business Model Innovation : Opportunities and Barriers. *Long Range Planning*, 43(2–3), 354–363. <https://doi.org/10.1016/j.lrp.2009.07.010>
- [7] Chesbrough, H. W., & Appleyard, M. M. (2007). Open Innovation Strategy (+Procter and Gamble Case Study). *California Management Review*, 50(1), 57–76.
- [8] Chou, C. (2016). Coupled open innovation and innovation performance outcomes : Roles of absorptive capacity  
耦合性開放式創新與創新績效 : 吸收能耐之調節角色, 36(1), 37–68.
- [9] Dahlander, L., & Gann, D. M. (2010). How open is innovation? *Research Policy*. <https://doi.org/10.1016/j.respol.2010.01.013>
- [10] Dewes, M. D. F. (2010). Open innovation as an alternative for strategic development in the aerospace industry in Brazil, 2(3), 349–360. <https://doi.org/10.5028/jatm.2010.02038910>
- [11] Eagar, R., Oene, F. Van, Boulton, C., Roos, D., & Dekeyser, C. (2011). The Future of Innovation Management : The Next 10 Years.
- [12] Felin, T., & Zenger, T. R. (2014). Closed or open innovation? Problem solving and the governance choice. *Research Policy*, 43(5), 914–925. <https://doi.org/10.1016/j.respol.2013.09.006>
- [13] Flor, M. L., Alfaro, J. A., Zarco, H., & Oltra, M. (2013). INBOUND OPEN INNOVATION , ABSORPTIVE CAPACITY AND INNOVATION PERFORMANCE : AN EMPIRICAL RESEARCH ON SPANISH FIRMS *Business Administration and Marketing*.
- [14] Gassmann, O., & Enkel, E. (2004). Towards a theory of open innovation: three core process archetypes. In *Proceedings of the R&D Management Conference (RADMA)*. <https://doi.org/10.1.1.149.4843>
- [15] Gassmann, O., Enkel, E., & Chesbrough, H. (2010). The future of open innovation. *R and D Management*. <https://doi.org/10.1111/j.1467-9310.2010.00605.x>
- [16] Gault, F. (2018). Defining and measuring innovation in all sectors of the economy. *Research Policy*, 47(3), 617–622. <https://doi.org/10.1016/j.respol.2018.01.007>
- [17] Hendrawan Muhammad Rosyihan, B. A. S., & Business. (2017). RJOAS, 11(71), November 2017, 11(November), 161–167.
- [18] Innovation, O. (2002). The Market for Open Innovation. *Innovation*.
- [19] James H Love, S. R. and P. V. (2011). Learning from Open Innovation, (112).
- [20] Jong, J. P. J. De, Vanhaverbeke, W., & Rochemont, M. De. (2008). Open innovation in SMEs: Trends , motives and management challenges, (November).
- [21] Katja et al. (2013). SECTION 2 . Management in firms and organizations Open innovation in small and micro enterprises.
- [22] Kissimoto, K. O. (2008). Implementing an Open Innovation Strategy : The role of Information Technology and Knowledge Management, (2008), 1–

- 10.
- [23] Meer, H. Van Der. (2007). Open Innovation – The Dutch Treat: Challenges in Thinking in Business, 16(2), 192–202. <https://doi.org/10.1111/j.1467-8691.2007.00433.x>
- [24] Mounoud, E. (2011). Central problems in managing open innovation : a recurrent issue ?
- [25] Rahman, H., & Ramos, I. (2013). Challenges in Adopting Open Innovation Strategies in SMEs: An Exploratory Study in Portugal, 10.
- [26] Rangamiztousi, A., Prof, A., & Ismail, K. (2015). A Conceptual Framework for the Effect of Open Innovation Practices on Innovation Performance, 5(12), 16–29.
- [27] Rasmussen, B., & Rasmussen, B. (2007). Open Innovation and the Networked Firm Open Innovation and the Networked Firm, (31).
- [28] Rauter, R., Globocnik, D., Perl-Vorbach, E., & Baumgartner, R. J. (2018). Open innovation and its effects on economic and sustainability innovation performance. *Journal of Innovation & Knowledge*. <https://doi.org/10.1016/j.jik.2018.03.004>
- [29] Santonen, T., Kaivo-oja, J., & Suomala, J. (2007). INTRODUCTION TO NATIONAL OPEN INNOVATION SYSTEM ( NOIS ) PARADIGM INTRODUCTION TO NATIONAL.
- [30] Shin, K., Kim, E., & Jeong, E. (2018). Structural Relationship and Influence between Open Innovation Capacities and Performances, 1–18. <https://doi.org/10.3390/su10082787>
- [31] Study, F. (2009). Facilitating Open Innovation Landscape and Feasibility Study October 2009, (October).
- [32] Sword, T. T. (2008). Open Innovation and Intellectual Property Rights, (January), 1–5.
- [33] Town, C. (2012). CIE42 Proceedings, 16-18 July 2012, Cape Town, South Africa © 2012 CIE & SAIIE, (July), 16–18.
- [34] Tuomi, I. (2009). Theories of Open Innovation.
- [35] Uduma, I. A., Ibeh, K., & Ogbuji, C. N. (n.d.). OUTBOUND OPEN INNOVATION DESIGN AND PRODUCT PERFORMANCE OF UK SMEs: A CONTINGENCY PERSPECTIVE By, 1–19.
- [36] van de Vrande, V., de Jong, J. P. J., Vanhaverbeke, W., & de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*. <https://doi.org/10.1016/j.technovation.2008.10.001>
- [37] Virlée, J., Hammedi, W., & Parida, V. (2015). Open Innovation Implementation in the Service Industry : Exploring Practices , Sub-practices and Contextual Factors, 2, 106–130.
- [38] Wang, L., Jaring, P., & Wallin, A. (2009). Developing a Conceptual Framework for Business Model Innovation in the Context of Open Innovation, 460–465.
- [39] West, J., Salter, A., Vanhaverbeke, W., & Chesbrough, H. (2014). Open innovation: The next decade. *Research Policy*, 43(5), 805–811. <https://doi.org/10.1016/j.respol.2014.03.001>
- [40] Westergren, U. H., & Holmström, J. (2012). Information and Organization Exploring preconditions for open innovation : Value networks in industrial firms, 22, 209–226. <https://doi.org/10.1016/j.infoandorg.2012.05.001>