

# External Knowledge in Innovation: Unveiling the Implications for Organizations

Nikaela Wilson

*University of Belgrade, Serbia,*

\*Corresponding Author: [nikaeyla@hotmail.com](mailto:nikaeyla@hotmail.com)

**ABSTRACT:-** There is an unequivocal need for knowledge in providing the coherent structure, for organizations to understand the required knowledge and standard by which they increase the relevance-oriented role of external knowledge. The internal resources of organizations are simply inadequate to deal with the recent innovation challenges. Nevertheless, organizational management is progressively exposing the value of external knowledge as an essential component in retaining a competitive advantage. As such, when the innovative climate changes, the organizations must quickly adopt. The lens of external knowledge enhances the conditions of quality improvements in organizations. Therefore, in a constantly evolving environment encompassing economic changes, ever evolving technology, political influence and social environment, external knowledge becomes an essential mechanism of organizational survival and performance. Hence, the paper examines the contributory role of external knowledge emerging from customers, suppliers and competitors toward creating greater innovations. The paper presents external knowledge as a mechanism for detecting opportunities and possessing a high level of innovation. It explores the impact of external knowledge in organizations. Moreover, the significance of external knowledge necessitates the point of exploring, highlighting and analyzing the unending function of external supports and assets in organizations. The paper conducts a systematic review of literature placing the importance of external knowledge in the innovation. A substantial contribution to the understanding of how organizations develop competency for innovation through external knowledge is provided. The findings establish that external knowledge is a fundamental element that needs adequate attention in the innovation process. Based on the review, external knowledge may be an important factor when the information gathered is shared and tactically applied through the knowledge management processes which plays a key role in influencing innovation within the organizations. External knowledge is vital to the innovative process and for the overall functioning of the organization as it plays a pivotal role in creativity. Furthermore, it serves as an avenue to provide additional information that could not otherwise be garnered from internal sources. In this regard, acquiring knowledge from an array of different sources including external source provides the foundation for a well-rounded problem-solving process for organizations. In general, the literature leans toward the viewpoint that external knowledge substantially motivates employees toward innovation.

**Keywords:** Knowledge, External knowledge, Organization, Innovation.

Field: Social sciences

## I. INTRODUCTION

Knowledge is an element that categorically converts the information of all processes of knowledge production (Dompere, 2013). In general, it is deemed as a resource and intangible asset that is acquired and efficiently utilized overall by various organizations and communities to promote substantial development. Knowledge is otherwise interpreted as data and information connected with a person for use in a practical setting. Many practitioners and academics argued that knowledge is rudimentary for competitive advantage in contemporary organizations. For instance, Drucker (2012) hypothesized that the upcoming community shall be a knowledge community where knowledge becomes a resourceful instrument at workplaces. Knowledge can be found in the minds of people on one side, and on the other it can be found in documents, processes, practices and standards within organizations. Furthermore, Nonaka and Konno (1998) contended that information cannot solely transform into knowledge unless the context is interpreted and integrated with a person's belief and commitments. As it relates to coding and transferring available knowledge, Nonaka (1991) categorized knowledge into two parts "Tacit" and "Explicit" knowledge. The difference between both categories is that the later could be easily coded and transferred, while the former is firmly ingrained into the organization system. Knowledge in its passive structure may be of little value, yet, worthwhile on the contrary if applied, replenished and shared through creative processes that result in superior performance.

To overcome the onslaught of innovation challenges, many organizations are increasingly shifting towards a dependence on external knowledge for sustainability. Thomke (2003) opined that it is a combination of the people, processes and tools that are holistically responsible for innovation and development in

organizations, in order for the organizations to be successful in innovation it requires not one aspect but an integration of all these elements.

The remarkable contribution of innovation in sustaining competitiveness and challenging the commoditization of products and services in the contemporary dynamic business environment is remarkable (Anthony, & Tripsas 2016). Therefore, external knowledge is important on the drive to overcome innovation barriers such as creativity obstacles, slow progressing market and economic decline. Wall (2014) argued that employing thousands of researchers would be a delaying process for curbing these innovation barriers. Furthermore, it has been observed by Yan and Azadegan (2017) that external knowledge from customers and business partners are optimistic for organizational innovation when measured against internal knowledge. The favourable advantages from external knowledge include extrinsic ideas and direct knowledge of requirements (Bogers et al., 2010). Similarly, West and Bogers (2017) elaborated that external knowledge also gives the privilege for measuring business models with partners where user innovation research, organizational innovation work and all other value-creation activities are explored.

Furthermore, organizations that want to remain relevant in the changing business and market environment need to explore beyond internal knowledge to maximize innovations (Bocken et al., 2014). External informants would have adequate knowledge and information for dealing with existing obstacles, observing market trends and developments thereby providing substantial information for future opportunities. Singh et al., (2019a) opined that knowledge fosters social change and Pham, Paille & Halilem (2019) emphasized that utilizing external knowledge fosters innovation. Similarly, Singh et al. (2019b) noticed that knowledge sharing practices open avenues for innovations.

Therefore, organizations need to be familiar with the modes of external knowledge that is most suitable to create innovations. As such, the kind of external knowledge that influences the innovative performance of organizations requires scholarly and empirical attention. Ardito & Petruzzelli (2017) for instance, examined customer's knowledge that impact product innovation. Likewise, Basit & Medase (2019) studied knowledge sources from competitors and customers to determine their effect on the product, process, marketing and organizational innovation. Similarly, Mina et al., (2014) surveyed impacts of external knowledge emanating from customers, suppliers and universities on innovation activities.

Based on the above review, the paper aims to highlight the potential contributions and implications of adopting external knowledge for organizational innovation. The possible support of external knowledge toward the development of organizational innovation activities shall be explored. Also, the ways of ensuring sustainability through external knowledge shall be covered. The purpose of the paper is to disclose the role of external knowledge toward prospective organizations. The paper has been organized around these areas; literature review, methodology, discussions and concluding comments.

## **II. LITERATURE REVIEW**

### **(a) EXTERNAL KNOWLEDGE**

From the perspective of external knowledge, De Araujo et al., (2014) considered external knowledge as an approach involving complications for the growth of organizations. Grigoriou and Rothaermal (2017) upheld that organizations may opt for knowledge sourcing to assemble ideas from suppliers, research agencies and government agencies. Shah & Tripsas (2016) viewed external supports as a component in the innovation process. Khanagha et al. (2017) regarded customers as determinants for brand communities. Furthermore, Kavusan et al. (2016) maintained the view that knowledge increases an organization's ability to access external information. Similarly, Ramadani et al. (2017) confirmed knowledge as a contributing factor to the successful performance of organizations. Research conducted by other authors, such as (Leiponen, 2012, Van der Vegt and Janssen, 2003) have revealed that the ability of firms to internalize and consolidate external knowledge is highly dependent on the implementation of organizational practices that culminate an atmosphere that allows their employees to engage in collective creative thinking and recombination processes.

### **(b) KNOWLEDGE AND INNOVATIONS**

Within the scope of knowledge and innovations, Beers & Zand (2014) examined the influence of relationship commitment with organizational-innovations. Brennecke & Rank (2017) opined that an external relationship creates potential value and gather resources for organizations while introducing innovations. Martin-Rios & Erhardt (2016) opined that external knowledge strengthens an organization's ability to diversify activities and access other organization's ideas to construct innovative advantages. However, Chesbrough (2003) argue that both external knowledge and ideas as well as internal capacities are important for open innovation activities.

Seemingly, Fang et al. (2017) contended that external knowledge-sharing enables organizations to compete with rivals. In this regard, while the relationship of knowledge, external supports and innovation is acknowledged in the review of literature, the current paper attempts to explain the possible implications of adopting external knowledge to organizational-innovations.

### **III. METHODOLOGY**

The study adopts a holistic approach to examine the effects of external knowledge on organizational innovation capacities. The study explains the reasons and benefits for embracing external knowledge alongside internal resources in the course of expanding innovations. The exploratory factor analyses were employed to measure external and internal potentials of organizational intellectual resources. The study mainly focuses on external assets and the outcomes are contextualized to organizations.

### **IV. DISCUSSION**

#### **(a) FORMS OF EXTERNAL KNOWLEDGE NEEDED TO CREATE INNOVATIONS**

While external knowledge contributes to an improvement in internal processes such as structural capital of the organization, innovation influences structural and social capitals (Wang & Sharma, 2016), in addition to the market share, financial returns and organization's performance. Generally, knowledge reassures organization indelible success (Wang et al., 2014). It is insufficient for an organization to solely rely on internal knowledge to be innovative. Internal resources need external knowledge and support for competitive advantage. Both internal requirements and external environment determine the appropriate external knowledge needed for proper organizational advancement. An external search can remarkably expose the organization to varying ideas as it allows for exploration beyond its doors, it is imperative as the forefront of innovation becomes institutionalized ; when dedicated personnel are appointed to combine or reassemble external knowledge and when employees at all levels regularly participate in workshops, seminars, conferences, technology fairs in which they are able to cultivate fine-tune and share their ideas with new ones coming from tightly or loosely related fields of interests (Felin & Foss, 2009). Having a knowledge management team can ensure that information is being circulating within the organization smoothly, since learning from others is crucial in fostering an environment that can lead to innovation.

The African Innovation Outlook II (AU-NEPAD, 2014) considered market-based such as customers, suppliers and competitors as the most important external information productive for organizational-innovation. Zwilling (2014) stated that business problems could be better solved by obtaining knowledge from suppliers, competitors and government agencies (McBride et al., 2019), universities and research centres. Similarly, Yan & Azadegan (2017) equally supported external expert-feedback as a means for enhancing innovations within organizations, and in fact, Arnett, Goldfinch & Chinta (2018) cited Amazon as a precedent in that regard. As such, the paper posits that innovations are determined by the quantity of external knowledge assembled by an organization.

The needs of customers would enable them to provide creative ideas through an interactive relationship with organizations (Nora, 2019). Dimensions of market knowledge influences organizations performance in product development, service quality, supply chain and innovation (Jin et al., 2019). Likewise, external knowledge involvement emanating from partners and customers affect services, products, purchase intention and innovation process (Johansson et al., 2019). Subsequently, external factors such as the demand of the market, the direction of the competitors in addition to the government's legislation are also key players that influence innovation activities. External information from universities and research institutes positively impact innovation product and process (Vivas & Barge-Gil, 2015). Interaction with users likewise improves the innovation efforts. The knowledge and feedback from suppliers' can also assist in resolving technical problems and supports the adoption of innovative technology. In addition, model specifications establish the required external knowledge resources for innovation. Consultancy services are extensively instrumental to innovation abilities of organizations (Gomez et al., 2016). Employees that are inadequately equipped with the necessary skills require specific knowledge to produce innovations. Hence, external knowledge has become an integral part of generating innovations in organizations.

#### **(b) IMPLICATIONS FOR THE ORGANIZATION**

There might be some implications as external knowledge may be detrimental to an organization in the absence of proper usage of such knowledge. Also, inadequate comprehension of priorities might lead to delay in satisfactory results in organizational objectives on innovations. The mechanisms underlying the linkage between resources, employees and productions may also be lacking. Organization legal requirements can largely obstruct various users from sharing vital information, thus resulting to limited amount of knowledge being generating in the organization. Common interest with competitors may also expose organizations to unbearable-risk.

The positive impact of external knowledge is seen in the accessibility of the external supports within the organization. Easy-accessibility facilitates the combination of knowledge components. External knowledge becomes efficient if widely translated and disseminated among employees involved in the innovation process.

The implication for integrating internal resources with external knowledge is that ideas would be more precise and efficiently incorporated.

## V. CONTRIBUTIONS

The paper contributes to innovation research by investigating the capacity of external knowledge towards achieving greater innovation results. The paper surveys external sources of knowledge in complementing internal resources. The findings observe that generating new knowledge from outside sources theoretically enable innovations. A key enabler of innovations in an organization is empirically unveiled. The paper proposes that organization-managers should combine internal and external knowledge to create innovations.

## VI. CONCLUSION

Regardless of the capability of internal resources, there is a need to delve beyond internal knowledge to establish greater innovation within organizations. External knowledge factors facilitate the effectiveness of innovation activity. The paper establishes that external knowledge resource is necessary for the growth of organizations, in addition to external knowledge, particularly, as it relates to innovation. External supports are regarded in the paper as value creation in organizations. As a matter of importance, the paper infers that organizations should invest largely in external knowledge, relationship and supports to increase innovation. Obtaining knowledge from several sources such as customers, partners, government agencies, suppliers, research institutes etc. enables a multifaceted problem solving process for organizations. The paper presents a more refined understanding of how an organization can generate innovation through external knowledge.

It is important to state that certain areas were not scholarly investigated in the above discourse. The quality and quantity of knowledge needed outside organization requires a comprehensive approach and attention. Circumstances and conditions for adopting external knowledge require practical and theoretical explanations. Apart from innovation activities, other areas in organizational-structure deserve examining.

## REFERENCES

- [1]. Anthony, C., & Tripsas, M. (2016). Organizational identity and innovation. *The Oxford handbook of organizational identity*, 417-435.
- [2]. Ardito, L., & Petruzzelli, A. M. (2017). Breadth of external knowledge sourcing and product innovation: The moderating role of strategic human resource practices. *European Management Journal*, 35(2), 261–272.
- [3]. Arnett, J., Goldfinch, B., & Chinta, R. (2018). Multi-dimensional Nature of Innovation at Amazon. *International Journal of Business Innovation and Research*, 15(1), 1-13.
- [4]. Ashforth, D. Ravasi, eds. *The Oxford Handbook of Organizational Identity*. Oxford University
- [5]. AU-NEPAD. (2014). African Innovation Outlook II. Pretoria: African Union-New Partnership for African Development.
- [6]. Basit, S. A., & Medase, K. (2019). The diversity of knowledge sources and its impact on firm-level innovation. *European Journal of Innovation Management*, 22(4), 681-714
- [7]. Beers, C., & Zand, F. (2014). R&D cooperation, partner diversity, and innovation performance: An empirical analysis. *Journal of Product Innovation Management*, 31(2), 292-312.
- [8]. Bocken, N.M.P., Short, S.W., Rana, P., Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. *J. Clean. Prod.* 65, 42-56. <https://doi.org/10.1016/j.jclepro.2013.11.039>.
- [9]. Bogers, M., Afuah, A. & Bastian, B. (2010). Users as innovators: A review, critique, and future research directions, *Journal of Management*, 36(4), 857-875.
- [10]. Brennecke, J., & Rank, O. (2017). The firms knowledge network and the transfer of advice among corporate inventors: A multilevel network study. *Research Policy*, 46(4), 768–783.
- [11]. Chesbrough, H. W. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business Press.
- [12]. De Araújo Burcharth, A. L., Knudsen, M. P., & Søndergaard, H. A. (2014). Neither invented nor shared here: The impact and management of attitudes for the adoption of open innovation practices. *Technovation*, 34(3), 149-161.
- [13]. Dompere K. K. (2013). *The Theory of the Knowledge Square: The Fuzzy Rational Foundations of the Knowledge-Production systems*. Springer-Verlag Berlin Heidelberg.
- [14]. Drucker, P. (2012) *Managing in the next society*. Routledge
- [15]. Fang, S. C., Wang, M. C., & Chen, P. C. (2017). The influence of knowledge networks on a firm's innovative performance. *Journal of Management and Organization*, 23(1), 22.

- [16]. Felin, T., & Foss, N. J. (2009). Organizational routines and capabilities: Historical drift and a course-correction toward micro foundations. *Scandinavian journal of management*, 25(2), 157-167.
- [17]. Gómez, J., Salazar, I., & Vargas, P. (2016). Sources of information as determinants of product and process innovation. *PloS one*, 11(4), e0152743.
- [18]. Grigoriou, K., & Rothaermel, F. T. (2017). Organizing for Knowledge Generation: Internal Knowledge Networks and the Contingent Effect of External Knowledge Sourcing. *Strategic Management Journal*, 38(2), 395-414.
- [19]. Jin, J. L., Shu, C., & Zhou, K. Z. (2019). Product newness and product performance in new ventures: Contingent roles of market knowledge breadth and tacitness. *Industrial Marketing Management*, 76, 231-241.
- [20]. Johansson, A. E., Raddats, C., & Witell, L. (2019). The role of customer knowledge development for incremental and radical service innovation in servitized manufacturers. *Journal of Business Research*, 98, 328-338. <https://doi.org/10.1016/j.jbusres.2019.02.019>.
- [21]. Kavusan, K., Noorderhaven, N.G., Duysters, G.M. (2016). Knowledge acquisition and complementary specialization in alliances: The impact of technological overlap and alliance experience. *Research Policy*, 45, 2153–2165.
- [22]. Khanagha, S., Volberda, H., & Oshri, I. (2017). Customer co-creation and exploration of emerging technologies: The mediating role of managerial attention and initiatives. *Long Range Planning*, 50(2), 221-242.
- [23]. Koch J., 2010. O wiedzy – wokół pojęcia, Biuletyn Wrocławskiego Centrum Transferu Technologii „High-Tech”, nr 40, wyd. 1.
- [24]. Lopes, C.M., Scavarda, A., Hofmeister, L.F., Thome, A.M.T., Vaccaro, G.L.R. (2017). An analysis of the interplay between organizational sustainability, knowledge management, and open innovation. *Journal of Cleaner Production*, 142, 476-488.
- [25]. Leiponen, A. (2012). The benefits of R&D and breadth in innovation strategies: a comparison of Finnish service and manufacturing firms. *Industrial and Corporate Change*, 21(5), 1255-1281.
- [26]. Martin-Rios, C., & Erhardt, N. (2016). Small business activity and knowledge exchange in informal inter-firm networks. *International Small Business Journal*, 35(3), 285–305.
- [27]. McBride, K., Aavik, G., Toots, M., Kalvet, T., & Krimmer, R. (2019). How does open government data driven co creation occur? Six factors and a ‘perfect storm’; Insights from Chicago's food inspection forecasting model. *Government Information Quarterly*, 36(1), 88-97.
- [28]. Mina, A., Bascavusoglu-Moreau, E., & Hughes, A. (2014). Open service innovation and the firm's search for external knowledge. *Research policy*, 43(5), 853-866.
- [29]. Nonaka, I. (1991). The Knowledge-Creating Company. *Harvard Business Review*, November–December.
- [30]. Nonaka, I., & Konno, N. (1998). The concept of “Ba”: Building a foundation for knowledge creation. *California management review*, 40(3), 15-54.
- [31]. Nora, L. (2019). Trust, commitment, and customer knowledge: Clarifying relational commitments and linking them to repurchasing intentions. *Management Decision*. <https://doi.org/10.1108/MD-10-2017-0923>.
- [32]. Pham, D.D.T., Paille, P., Halilem, N., 2019. Systematic review on environmental innovativeness: a knowledge-based resource view. <https://doi.org/10.1016/j.jclepro.2018.11.221>.
- [33]. Ramadani, V., Abazi-Alili, H., Dana, L.P., Rexhepi, G., & Ibraimi, S. (2017). The impact of knowledge spillovers and innovation on firm-performance: Findings from the balkan countries. *The International Entrepreneurship and Management Journal*, 13(1), 299-325. <https://doi.org/10.1007/s11365-016-0393-8>.
- [34]. Shah, S.K., M. Tripsas. (2016). When do user innovators start firms? A theory of user entrepreneurship. D. Harhoff, K.R. Lakhani, eds. *Revolutionizing Innovation Users, Communities, and Open Innovation*. MIT Press, Boston, MA.
- [35]. Singh, S. K., Mittal, S., Sengupta, A., Pradhan, R. K. (2019a). A dual-pathway model of knowledge exchange: linking human and psychosocial capital with prosocial knowledge effectiveness. *Journal of Knowledge Management*. <https://doi.org/10.1108/JKM-08-2018-0504>.
- [36]. Singh, S.K., Gupta, S., Busso, D., Kamboj, S., (2019b). Top management knowledge value, knowledge sharing practices, open innovation and organizational performance. *Journal of Business Research* 1-11. <https://doi.org/10.1016/j.jbusres.2019.04.040>.
- [37]. Thomke, S. H. (2003). *Experimentation matters: unlocking the potential of new technologies for innovation*. Harvard Business Press.
- [38]. Van der Vegt, G. S., & Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of management*, 29(5), 729-751.

- [39]. Vivas, C., & Barge-Gil, A. (2015). Impact on firms of the use of external knowledge sources: A systematic review of the literature. *Journal of Economic Surveys*, 29 (5), 943–964.
- [40]. Wall, M. 2014. “Innovate or Die: The Stark Message for Big Business,” BBC News <http://www.bbc.com/news/business-28865268>.
- [41]. Wang, Z., Sharma, P. N., & Cao, J. (2016). From knowledge sharing to firm performance: A predictive model comparison. *Journal of Business Research*, 69(10), 4650e4658.
- [42]. Wang, Z., Wang, N., & Liang, H. (2014). Knowledge Sharing, Intellectual Capital and Firm Performance. *Management Decision*, 52(2), 230-258.
- [43]. West, J., & Bogers, M. (2017). Open innovation: Current status and research opportunities. *Innovation: Organization & Management*, 19, 43–50. <https://doi.org/10.1080/14479338.2016.1258995>.
- [44]. Yan, T., & Azadegan, A. (2017). Comparing inter-organizational new product development strategies: Buy or ally; Supply-chain or non-supply-chain partners?. *International Journal of Production Economics*, 183, 21-38.
- [45]. Zimmermann, A., Oshri, I., Lioliou, E., & Gerbasi, A. (2018). Sourcing in or out: Implications for social capital and knowledge sharing. *Journal of Strategic Information Systems*, 27(1), 82-100.
- [46]. Zwillig, M. (2014). Win-win: Strategically partner with your top competitors. *Entrepreneur*. Press, New York, NY. <http://www.entrepreneur.com/article/234522>

**\*Corresponding Author: Nikaela Wilson**  
**University of Belgrade, Serbia,**