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A Critical Review of Organizing Knowledge Management for Innovation

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Abstract: This study critically reviews the literature that demonstrates the relevance of knowledge management process and business intelligence, as well as the challenges arising when it comes to organising for innovation in today's business organisations. Hence, the to attain desired innovation it is important to integrate business intelligence (BI) and knowledge management (KM) for the diffusion of innovation. Hence, importance of integrating business intelligence (BI) and knowledge management (KM) for the diffusion of innovation. Organisations' innovation dynamics and knowledge processes that lead competitive advantage of organisations are examined. Literature points that many organisations rely on individual employees' knowledge and skills. As a result, information systems that enable knowledge management (KM) as a critical tool for gaining a competitive advantage (Campbell, 2012). The seminal argument in this study is that knowledge diffusion and knowledge externalities are the main drive of increase in economy. As a result, this is expected to be a win-win value proposition for such organisations integrating business intelligence and knowledge management. However, owing to changing business conditions and the rapidity of technological development, as well as the rising expenses involved with carrying out R&D operations in many of these organisations, maintaining competitive advantage through internal R&D alone is becoming increasingly challenging. The importance of innovation processes and network dynamics in the context of Integrated Knowledge Networks is explored, which provide feasible possibilities for utilising innovation as an interactive process as well as knowledge processes for creating business intelligence in organisations. Due to the challenges of organising for innovation, the organisations figured to rely on "Open innovation" approach to intentionally seek out unique knowledge and information outside of their organisational bounds. This study also discusses the challenges that organisations hurdle on in managing inter-organizational cooperation because of external knowledge sourcing techniques (Campbell, 2009). This is due, in part, to the fact that they span a wide range of organisations, people, and resources, as well as the interactions that exist between them. The creative processes and network dynamics are facilitated by an architecture that blends organisational and technical aspects in Integrated Knowledge Networks. Hence, the study focuses on twofold to sourcing external knowledge in particular: learning from international business environments and corporate venturing strategy for corporate incubators.

Keywords: Knowledge Management, Business intelligence, Intellectual Capital, Open Innovation, External Knowledge Sourcing, Corporate Incubators.

1. Introduction

Individual organisational employees' knowledge and competency are critical in today's organisations. As a result, information systems that support knowledge management are seen as critical instruments for gaining a competitive advantage and organizational growth which relies heavily on effective knowledge management. (Campbell, 2009). Penrose's key book on organisational evolution, The Growth of Organizations (1959), posits that the recombination of existing knowledge resources is what creates new information in today's organisations. The process of resource combining is important to the Schumpeterian idea of endogenous innovation (Aghion and Howitt, 1990; Lucas, 1988; Romer 1986). This implies that top management teams in companies perform an agentic role. According to the Schumpeterian tradition, technological innovations drive economic growth because of private R&D investment. Based

on the core concept, R&D expenditures generate new information and the externalities related to innovation result in enhanced benefits to scale as a result of knowledge spillovers. Scholars believe that engaging in creative activities is an important aspect of organisational success (Chandler 1962; Ansoff 1965).

Strategic R&D investment is crucial to a company's sales, productivity, and profitability (Romer 1990; Geroski 1993; Griliches 1998; van Reenen 1997). The idea that knowledge drives internal R&D is supported by recent knowledge-based perspectives on firms, which emphasise knowledge as a basic competitive advantage. (Alcacer and Chung 2007; Grant and Baden-Fuller 1995; Grant and Baden-Fuller 1995; Conner and Prahalad 1996). Knowledge-based perspectives build on the resource-based view (RBV) by emphasising knowledge as a critical resource to source and sustain competitive advantage. Despite its relevance as a source of input for organisational R&D, knowledge has historically been acquired largely within a single organisation. For example, rather than depending on externally obtained innovation inputs, companies have typically developed new items, processes, and services by utilising resources inside the confines of a focused organisation. However, owing to the rapid increase in knowledge, technical breakthroughs, changes in business settings, and the rising prices related to R&P activities in the last few years, maintaining a competitive advantage only through internal R&D is becoming more challenging.

2. Literature Review

In today's technologically challenged climate, organisations are shifting their attention from closed to open innovation to organise for innovation. This research conducted a thorough assessment of the literature to highlight the issues associated with innovation dynamics and knowledge management systems. Opening for innovation, external knowledge sourcing, learning from foreign contexts, corporate incubators, and managing inter-organizational cooperation are all covered in this article.

2.1 Opening for Innovation

Teece (1986) investigated a broad spectrum of "know-how" needed for the most complex technology and concluded that individual firms are usually unable to keep up with these various technologies. As a result, when faced with technical uncertainty, organisations are more likely to seek outside expertise than than concentrating on internal R&D. (Harrigan 1986; Walker and Weber 1984; Balakrishnan and Wernerfelt 1986). According to Fritsch and Lucas's (2001) empirical study, firms that participate in R&D and strive to offer higher-level innovations (i.e., fresh to the market rather than unique to the organisation) are significantly more likely to engage in cooperative partnerships to gain external knowledge. Similarly, Arora and Gambardella (2010) observed that organisations' innovation processes are becoming increasingly reliant on data received from outside sources. The management literature has looked into the connection between external knowledge sourcing and an organizational development via the modification of creative processes and abilities (e.g., Levinthal and March 1993; Katila and Ahuja 2002; Chesbrough 2006; Cassiman and Veugelers 2006; Laursen and Salter 2006, 2007). As a result, when faced with uncertainty that internal R&D alone cannot solve, businesses turn to external information sources. Furthermore, the dual role of internal and external R&D activities is described in the literature as complementary rather than substitutive roles. Chesbrough (2003), for example, explains open innovation as a paradigm meaning businesses can and have to leverage both internal and external ideas, external and internal channels to the market while attempting to improve existing technologies.

2.2 External Knowledge Sourcing

Formal technological agreements, licencing, consulting services, and R&D outsourcing are all examples of where external expertise may be accessed informally or formally. Conferencing and trade exhibitions, research partnerships, equipment purchases, and informal relationships are all examples of informal information transfer channels (Veugelers and Cassiman 2004). Firms can also learn through hiring local employees, using local suppliers (Almeida 1996; Anand and Kogut 1997), or forming relationships with customers, competitors, or colleges (Almeida 1996; Anand and Kogut 1997). Furthermore, recent technological and socio-technical breakthroughs, such as the Internet and widespread usage of web-based platforms, have opened up new avenues for organisations to gather external knowledge and information by reaching out to possible contributors beyond the constraints of the primary organisation. Companies, for example, can receive new product ideas and potential breakthroughs by polling expert "crowds" (Dahlander and Piezunka, 2014). The use of expert online digital platforms to crowdsource new ideas has grown as one of the approaches used by large established organisations to get outside services, ideas, and supplies possible to exploit as means in the innovation process

of the organization. The current paper discussion focuses on two key strategies that are examples of knowledge sourcing processes which need further examination: a) overseas markets un the role of prospective knowledge spillovers, b) corporate venturing operations, namely company incubators.

2.3 Learning from Foreign Environments

According to research, foreign business settings are a source of unique technological knowledge that cannot be found in the home market. Businesses can also employ foreign direct investment (FDI) to obtain capabilities that are not available in their home countries (Chung and Alcacer 2002). According to international business literature, companies might establish operations in other countries not just to capitalise on their existing ownership advantages, but also to obtain access to new technological knowledge that is not accessible in their home countries (Ghoshal and Bartlett 1990; Cantwell 1989).

Knowledge spillovers are often restricted to a single location (Jaffe et al. 1993). As a result, multinational firms may choose to move R&D overseas in order to tap into local knowledge networks and benefit from locally focused technological expertise. Similarly, exporting markets may be an appealing environment for such information inflows because they expose businesses to a diverse portfolio of knowledge not available in their home market, a phenomenon dubbed "learning by exporting" by recent studies (e.g., Esaku, 2021; Gkypali, Love, and Roper, 2021). An exporting corporation with no FDI abroad varies from an asset-seeking multinational business in at least two respects. Firstly, it lacks the amount of international market involvement afforded by FDI, which may result in less information flow between the exporting company and the host market (Salomon and Shaver, 2005). Second, rather than explicit technology-seeking goals, other factors are more likely to drive the decision to export and the selection of export target countries. As a result, the host markets for exporters are not always those with fresh technology knowledge. Exporting firms can still acquire access to new technological knowledge by taking use of certain of the technology acquisition techniques made available through foreign direct investment. According to Evenson and Westphal (1995), a significant portion of the information required to develop core skills comes from export customers who publicly submitted product designs and gave technical help to improve process technology as part of their sourcing activities. As a result, externalities generated by exporting must account for some of the efficacy of export-led growth.

Although anecdotal evidence and conclusions based solely on case studies tend to emphasise the potential for export to provide learning opportunities, economic data on the learning benefits provided by exports remains ambiguous. This means that researchers should look for boundary conditions that might explain disparities in results. Such moderating forces can define a firm's ability to tap into foreign market information and how that knowledge is effectively used. At the regional, industry, and company levels, these factors can be discovered.

2.4 Corporate Incubators

As a strategic approach for strengthening innovation processes, major established companies are increasingly turning to external corporate venturing (Gompers, 2002; Birkinshaw and Hill, 2005; Dushnitsky and Lenox 2005, 2006; McGrath et al. 2012). Corporate venture capital (CVC), for example, is a type of external corporate venturing in which a large established corporation invests in a portfolio of entrepreneurial ideas that originate outside of the primary organisation. Because CVC investments are designed by specialised firms for which finance is not a primary business (Maula, 2001; Rauser, 2002), and because a rather significant proportion of the return on investment is considered to be strategic, CVCs are different from the activities of traditional capitalists (van de Vrande et al. 2006). CVCs are becoming increasingly important as a foreign innovation sourcing strategy, particularly for large established corporations based in the United States (Napp and Minshall, 2011). Corporate incubators, among other external corporate venturing strategies (for example, corporate venture capital (CVC)), can be employed as part of a purposeful, open innovation strategy (Chesbrough 2003). Corporate incubators, as opposed to CVCs, give physical facilities and closeness to cultivated businesses. Corporate incubators have been around since the 1950s, but they come in a range of organisational forms, making them subject to a number of taxonomies. Corporate incubators, for example, are characterised as "an institution that offers resources to entrepreneurial efforts in order to improve their chances of foundation and survival" (Allen and McCluskey, 1990) (Löfsten and Lindelöf, 2002; Hackett and Dilts, 2004; Dettwiler et al., 2006). A corporate incubator is considered as a mechanism for increasing external sourcing of innovation inputs by developing relational links between big established firms and incubated ventures, as well as relationships between incubated efforts themselves, resulting in knowledge spillovers.

Corporate incubators may be conceived of as a network made up of the focal corporation and its portfolio of fostered enterprises that aims to introduce new knowledge and information, improve inter-organizational cooperation, and facilitate knowledge transfers. The article "strength of weak ties" by Granovetter (1973), in which weak ties are important for the introduction of new ideas and viewpoints, is a basic unit which keeps being a vital reference point for the scholars of social sciences investigating the importance of networks in both economic and social life. Fostered businesses, according to Lyons (2000), are more likely to collaborate over time since they are all physically situated "under the same roof." Scholars believe that networks are crucial conduits for capacities, information, and knowledge (Granovetter, 1973; Hansen 1999; Sparrowe et al. 2001; Ahuja 2000). Focal organisations and its fostered enterprises may be able to seek and exploit external expertise and information through this network. However, network architecture, such as formal interventions, liaisons, meetings, and teams (Almeida, 1996; Inkpen and Dinur, 1998; Brown and Eisenhardt, 1998; Okhuysen and Eisenhardt, 2002; Hargadon, 1998), may either limit or facilitate knowledge and information transmission inside and across firms (Dougherty, 1992; Dyer, 1999). The conclusion is that corporate incubators are a particularly effective instrument for establishing links between high-quality firms and under-resourced focal organisations because they effectively institutionalise the mechanism that encourages frequent engagement. The numerous constellations of ties that connect people with high levels of human capital across organisational boundaries are substantial social capital resources. Per Adler and Kwon (2002), social capital has been shown to promote inter-organizational resource sharing and product development, as well as inter-organizational interactions. Similarly, Inkpen and Tsang (2005) define social capital gains as privileged access to knowledge and information, influence, and favoured opportunities.

2.4.1 Corporate Incubators' Value Creation

Corporate incubators may benefit both the corporate sponsor and the firms that engage in the incubator. Looked by the company sponsor standpoint, the use of a corporate incubator for the innovation process is dual. First, a corporate incubator may provide exploratory benefits to the focus firm by giving insights into new markets and technology, as well as beneficial possibilities through exclusive access to the corporate incubator's portfolio of innovative enterprises. By providing these benefits, the corporate incubator can aid a company sponsor in building the potential for long-term innovativeness. Second, corporate incubators can give the main organisation with new opportunities to exploit certain technical areas by allowing ventures to access complementary technologies or by utilising present items and technology in new markets (Tidd and Trewhella, 1997; Gompers, 2002). Corporate incubators may be a potentially beneficial component of an organization's entire external venturing programme because of their capacity to obtain market knowledge, have access to well-combined technologies and insights into novel technology, and expect an industry trend early. As a result, the capacity to obtain market knowledge, access complementary technologies and windows on emerging technology, and foresee an industry's direction sooner certainly maintains the focus organization's competitive advantage in the long term. Corporate incubators have strategic and financial ramifications that go beyond their sponsors. Similarly, to how a well-established firm benefit from a venture's resources, technology, and "know-how," an incubated venture may benefit from the corporate incubator and exchange benefits with other incubated ventures. For example, an incubated venture may have a customer-supplier relationship with the focal corporation, in which the venture's services and products are employed by the focal organisation. Incubated enterprises can also enter into product development collaborations, joint research agreements, and marketing, sales, and distribution (MSD) arrangements. The firm may also acquire value because of the legitimacy earned as a result of its relationship with the main organisation (McNally, 1997; Maula, 2001). In addition to technological and financial advantages, an incubated firm may benefit from managerial and operational support from a focal organisation. Because of their close proximity, incubated firms can also communicate directly and on a frequent basis with other incubated ventures. Based on the prospective benefits of working and learning with related plans currently in the incubator and more experienced organizations which have graduated from the incubator, a venture chooses a corporate incubator (Ruping and von Zedtwitz, 2001). Incubated initiatives may be considered as an informal network that replicates communities of practice, with people differentiating themselves primarily via the exchange of tacit knowledge. Incubated enterprises, on the other hand, have several opportunities to interact and collaborate in a number of ways that enhance venture growth and, as a result, make incubated businesses more strategically advantageous to a focal organisation.

Looked from this perspective, corporate incubators tend to be seen as the catalyst as well as the physical display of inter-organizational partnership operations that facilitate knowledge recombination in focus enterprises and their supported startups. Corporate incubators may be considered as novelty platforms giving an edge advantage to both engaged individual firms and the principal corporate sponsors as a privileged knowledge network. Incubated enterprises and the

focal organisation get a competitive advantage through quasi-rents Up to the point that a corporate incubator represents a network with these benefits (i.e., higher than normal returns).

2.4.2 Perspectives of Corporate Incubators

The corporate incubator may be regarded of as a hybrid organisational model that blends hierarchies and markets, and it was chosen for its ability to reduce the uncertainty that focused organisations have when it comes to getting external innovation inputs for long-term competitive advantage. As a result, a focus organization's ability to establish and manage a corporate incubator may be considered as a valued capability that varies across firm. On the other hand, the hard task for a local organization is to create competitive advantage with the ability to withstand high-speed environments that are a type of dynamic market where even simplest industry traits like limits, rivals, and consumers are increasingly fickle. An optimal performance is achieved by continually building temporal advantages and modifying resources to suit their surroundings which, in turn, necessitates well-tuned sensors and the ability to resist inertial forces as well as engaging in organizational alterations and realignment.

As a result, locating, recognising, obtaining access to, and distributing creative knowledge are key tasks for organisational sustainability. It signifies that a corporate incubator is a multi-layered adaptive system which can get more flexible and produce more sustained profits for all actors engaged rather than when they operate on their own. Corporate incubators may be studied from several perspectives, such as resource-based view (RBV), dynamic capabilities, knowledge-based view, resource dependence theory, network theory, organisational learning, and organisational design. In order to gain insight into the variables influencing the decision to develop corporate incubators and the upsides of them on performance results, we need more research. The relative performance of corporate incubators versus alternative modes of sourcing external knowledge would be useful to both theory development and corporate practitioners and venture founders. Furthermore, because large established corporations have many corporate venturing strategies at their disposal, such as mergers and acquisitions, the relative merits of these approaches are important to consider. Research into the phenomenon of corporate start-ups should take into account interactions among numerous strategies and circumstances such as time and sequence. Organizations may also elect to pursue numerous external knowledge sourcing initiatives at the same time, such as in the incubation phase of a company's life cycle.

2.5 Managing Inter-Organizational Collaborations

Corporations are increasingly reliant on inter-organizational relationships to find expertise beyond their own bounds. Organizations must collaborate with and pull knowledge and information from various players in order to find novel knowledge (Shan et al. 1994; Rosenkopf and Nerkar 2001; Katila 2002; Laursen and Salter 2006). Since very few companies can keep up with technological advances on their own, R&D activities are getting more interactive and disperse procedures. Teece posits that the advent of IORs has thrown our present understanding of innovation organisation into disarray, as strong boundaries become increasingly blurred. As a result, arm's length partnerships are insufficient, and that organisations are more likely to create deep and long-term inter-organizational relationships. There appears to be a link between frequent IORs and the ability to innovate, according to the findings (Cornish 1997; Propris 2002). Lööf and Heshmati (2005) found a connection between recurring IORs and organisational performance. This put some shortfalls of the resource-based view (RBV) in the spotlight, emphasizing the fact that an organization has to attempt to curb knowledge spillovers instead of exchanging essential know-how since transference is sure to undermine or completely destroy competitive edge.

As shown by RBV, the core reasoning has its basis on the premise where a company consists of “sticky” and hard-to-copy resources (Penrose 1959; Wernerfelt 1984; Barney 1986). Based on this view, economic rents might solely be acquired if these valuable resources are conserved and exploited. Dyer and Singh (1998) underline the use of an IOR idea along with the creation of resources and competences with the aim of obtaining a competitive advantage (for example, relation-specific tools, effective management, and knowledge sharing processes). In the same way, the approach of dynamic capabilities on RBV’s static nature extends to cover the concept that dynamic external networks are of utmost importance to gain a competitive advantage in ever changing context (Teece et al., 1997; Eisenhardt and Martin, 2000). According to Brown and Eisenhardt (1997), there is a higher chance of experimentation and learning in the presence of a versatile portfolio of external knowledge sourcing activities. As maintained by those scholars, diverse portfolios are especially productive if the goal is to acquire a clear understanding of the future product trajectory as well as market sectors instead of a single proportion of technical expertise. In other words, a portfolio which consists of externally oriented encounters brings about a broader knowledge search, resulting in more creativity. In order to identify these

opportunities, organizations invest a great deal of time, funds, and other resources (Cohen and Levinthal, 1990). Although R&D spending is a component of this search, it makes up a small part of the process and accounts for a tiny fraction of the total investment in the hunt for new ideas (Patel and Pavitt, 1995).

What is more, in order to highlight the significance of local knowledge and "collective learning", we have an ever-developing tendency in broad knowledge searches. In the context of a global market, the most significant resources for competitiveness are considered localized knowledge production where both people and companies find out about the new technology, develop trust, and exchange know-how (Cohen and Fields 1999). The distinction between "tacit" and "codified" knowledge is of utmost importance where the former is rather dependent on localized face-to-face meetings and spillovers (Breschi and Lissoni, 2001). As pointed out by Leamer and Storper (2001), the significance of face-to-face engagement in inter-organizational partnerships is developing since the role "tacit" knowledge plays grows in importance. The increase in R&D activities generate more complex and different inventions leading to a intense partnership among distinct businesses.

3. Conclusion

It is essential to have effective external venturing due to the difficulties of incorporating knowledge management (KM) and business intelligence (BI) while making innovation which, in turn, brings about the need to choose the relevant external data for the organization in question as well as relying on relational abilities to create or end groups of external partners in case the environment necessitates the imminent change. Such situation might lead to serious hardships for businesses while choosing compatible external collaborators and partnering styles along with controlling IORs in the future.

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