

# **Evaluating Toyota's Approach to Strategic Management of Knowledge and Organizational Learning**

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## INTRODUCTION

Knowledge gives you an advantage over your competitors, and Ichijo and Nonaka (2006) state that "the success of a corporation in the 21st century will be defined by the extent to which its executives can generate intellectual capital through knowledge generation and sharing on a global basis." Knowledge is intricate, challenging to replicate, and tough to manage. It is ingrained in corporate culture, procedures, and regulations as well as in the business entity, owners, and staff. Organizations of various sizes implement knowledge management (KM) projects to improve internal communication, record and share best practices, create project workspaces, establish a platform for managing customer connections, and gather competitive intelligence (Martin-Rios & Erhardt, 2006). The organizational processes for knowledge production, storage, retrieval, transfer, and application have been improved by information technology (IT) (Alavi & Leidner, 2001). Leveraging and enhancing an organization's knowledge assets is one of knowledge management's main objectives in order to improve knowledge practices, organizational behaviors, decisions, and performance (Mahapatra & Sarkar, 2000).

Nonaka and Komo (1998) provided a description of how Japanese organizations manage the location (or "Ba") of knowledge and the methods for sharing it. Nodari et al. (2013) reviewed scientific articles and developed a research model that connects the intra- and inter-organizational sharing process to absorptive ability and organizational performance in Japanese enterprises. As a result, academic research and writing on Toyota Motor Corporation (Toyota) are abundant, and Toyota frequently serves as a role model for academics and business practitioners with its teachings of the fabled Toyota Production System (TPS) and the so-called "*Toyota way*," as well as its widely adopted applications of lean management and lean manufacturing to manufacturing and production, as well as to other areas of the industry generally (Dyer & Nobeoka, 2000; Spear, 2005; Wamock & Jones, 2005). In this essay, the strategic management of knowledge and organizational learning used by Toyota will be discussed. A critical analysis of the company's use of strategic frameworks and instruments for sustaining competitive advantage as well as managing strategic corporate change will also be provided.

## **Knowledge Management Process and Goals at Toyota**

Toyota's profits in 2003 were higher than the aggregate profits of its three main rivals. Toyota surpassed General Motors (GM) and Volkswagen to take the top spot in the global auto industry thanks to its announcement in December 2005 that it will produce 9.06 million vehicles globally in the upcoming year. As per Yahoo Finance, 2013, Toyota had 333,498 employees and an annual revenue of \$213 billion as of March 31, 2013. (Dyer & Hatch, 2004). Toyota has been highlighted as a knowledge-creating organization by Nonaka and Takeuchi (1995), a trait that is said to have enabled it to foster the dynamics of innovation that allowed it to dominate the global automotive industries in the 1990s. It was argued that the concentration on explicit knowledge in Western organizations and tacit knowledge in Toyota is where the differences between the two lay (Hedlund & Nonaka, 1993). Toyota has achieved tremendous success because to knowledge exchange and organizational learning.

Knowledge is the end result of ongoing procedures, such as those used by Toyota, that are ingrained in the physical and social framework. According to Thomas, Sussman, and Henderson (2001), there are four crucial steps in the management of Toyota's knowledge: knowledge production and acquisition, knowledge transfer, knowledge conversion or interpretation to serve organization goals, and knowledge application to meet firm goals. Toyota is successful at exploiting knowledge, observing better operational efficiencies, higher rates of successful innovations, higher levels of customer service, and an ability to have foresight on trends and patterns emerging in the market, improving its sustainable competitive advantage (Sandhawalia & Delcher, 2011).

Information creation deals with a variety of implicit or explicit knowledge and is increased by promoting synergistic relationships between people from different backgrounds through ongoing, dynamic interactions (Nonaka, 1994). Toyota sees knowledge generation as an upward spiral process that begins at the individual level and moves up to the collective (group) level, then to the organizational level, and occasionally to the inter-organizational level. Organization knowledge production, according to Gold et al. (2001), takes place on two levels: between individuals and between the organization and its network of business partners. Benchmarking and collaborations

are two instances of these acquisition methods (Inkpen, 2008). A platform that offers standards and consistency serves as the necessary framework for an organization to organize or structure its knowledge. Integrating the specialized knowledge of numerous people is one of Toyota's main objectives. Routines, sequencing, group problem-solving, norms and directives, and decision-making in the local environment are typical methods of enabling integration (Senaji, 2011). Contrary to explicit knowledge, tacit knowledge is both inimitable and appropriate, and it is embodied in individual, group, and organizational routines (Al Laham & Amburgey, 2005).

### **“The Toyota way”: Its teachings**

According to Davenport and Prusak (1998), the majority of knowledge management (KM) initiatives have one of three goals: to make knowledge visible and demonstrate its role in an organization primarily through maps, handbooks, and hypertext tools; to develop a knowledge-intensive culture by encouraging and aggregating behavior such as knowledge sharing and actively seeking and providing knowledge; or to build a knowledge infrastructure, which is a web of connections among people given space, time, tools, and environment. Toyota's KM strategy incorporates organizational and behavioral dimensions in addition to a technical and one-dimensional perspective. It is noted that the use of a tool or technology does not ensure its success because a number of other factors must also be taken into account for the project to be successful. These factors include picking the best business model for investments, determining what changes will result from the use of the new model, and determining how to identify and manage these changes. The likelihood of the project failing will increase if these changes are not appropriately examined and handled. To produce new knowledge, spread it throughout the firm, and incorporate it into its systems, services, and products is a competency of Toyota as a whole (Nonaka & Takeuchi, 1995).

Motomachi, Takaoka, Tsutsumi, and Tahara are Toyota's four domestic automobile production facilities. These have marginally variable production processes depending on factors including automobile type, export ratio, production alternatives, supplier relationships, and plant site restrictions. The Operation Management Consulting Division (OMCD) and the Global Production Centre (GPC) are nodes in Toyota's knowledge network in Japan, which is made up

of several auto plants. The OMCD disseminates knowledge that is both standardized and non-standardized. The primary role of the GPC is knowledge standardization, which is accomplished by the network's overall knowledge nodes maintaining a balance between the diversification and standardization of knowledge produced by “*Kaizen*” operations on the production floor. Every plant has production floor leaders who are in charge of developing and updating work standards. When a problem arises on the production floor, the leader acknowledges it, looks into the situation, and pinpoints the root cause. The worker is then prompted by the leader to come up with solutions to the issue. Then, these concepts are combined, and a proposal is made that specifically addresses the many issues involved in work standards (Monden, 2006).

The distinct conditions on each of Toyota's factory floors led to the development of distinctive production systems. When developing brand-new plants or renovating existing ones, new system concepts are used (Fujimoto, 1977). Within the same Toyota Production System (TPS), knowledge with a high degree of diversification is developed. There are three ways that knowledge generated on these production floors spreads throughout the network: directly through interaction between hierarchies at each plant during monthly assembly managers meetings, as well as through liaison meetings between assembly section managers where knowledge is shared. Additionally, there are meetings for general managers of manufacturing divisions where executives regularly work together; diffusion through OMCP, where the chief engineer and designated TPS instructor communicate sustainably for TPS management; and supporting voluntary learning teams (Jishuken) at each plant where a study group of plant employees and suppliers discuss solutions for various production-related issues, thereby transferring methodologies and knowledge created. When there is a significant knowledge gap between plants or new knowledge is anticipated to boost productivity through implementation, OMCD standardizes and disseminates it. Mowery (1996) state that each plant may find it challenging to search for external knowledge and that there are problems with objectivity when evaluating its usefulness. OMCD acts as a middleman for knowledge transfer to the plants, and knowledge is finally disseminated through GPC, which establishes the most fundamental skills necessary in automaking and develops tools, standard visual manuals, to teach skills with clarity to employees on the production floors through trainers using these tools. The balance between knowledge variety and standardization in the Toyota knowledge network is a source of competitiveness. The importance of local factories, the OMCD,

and the GPC in knowledge transmission to other countries has been made clear by studies on Toyota's worldwide knowledge network (Dyer & Nobeoka, 2000; Suh, 2017).

## **Strategies for knowledge creation and transfer in the Japanese automotive industry**

Knowledge is created not only within individual organizations but also through connections between firms. Due to the dependency this places on the abilities of other organizations, Cusumano and Takeishi (1991) claim that supplier relations and management are essential areas for Toyota and any company that subcontracts sections of component design and production. “*Keiretsu*” (conglomerates), defined as clusters of interconnected enterprises and the specific ties that bind them, as well as their long-term, personal, and reciprocal character, have been used to describe and evaluate the strong links or networks between firms in Japan (Lincoln et al., 1996). It is thought that the openness and diversity of networks promote an environment that is favorable for the production of wholly new knowledge. A high-trust, long-term partnership between Toyota and their suppliers has made it possible to shorten the time it takes to develop new models in its sector. This is due to the “*Keiretsu*” structuring of supplier relationships, which has historically allowed Toyota to remain lean and flexible while enjoying a level of control over supply comparable to that of vertical integration (Ahmadjian & Lincoln, 2001). In order to improve inter-organizational learning, Toyota has implemented bilateral and multilateral knowledge-sharing practices with suppliers, claim Dyer and Nobeoka (2000). Toyota's competitive advantage stems in part from its capacity to collaborate with a variety of independent suppliers to generate expertise (Fujimoto, 1999).

With an emphasis on organizational learning through the collaborations, the advantages of international alliances, foreign partnerships, and joint ventures have been discussed, even between competitors. As a result, learning together with trust and control has emerged as one of the most crucial notions in the alliance. This is because not all crucial knowledge lives within company boundaries, and joint ventures are seen as efficient conduits that enable Toyota to use expertise in many markets. To get a competitive edge, Toyota must utilize outside information sources

(Dhanaraj et al., 2004; Al-Laham & Amburgey, 2005). The partnership between Toyota and General Motors (GM) is already renowned in the automobile sector (Inkpen, 2005). Over the past 10 years, inter-firm alliances have flourished, but two prominent partnership approaches, governance and learning, have generated conceptual conflict.

### **The Interplay between firm strategies, Innovation, enablers and systems of competence building**

In 1996, Michio Tanaka, then the Director of International purchasing at Toyota, asserted:

“The Toyota Production System’s (TPS) underlying principles have essentially spread and are understood by our rivals. The knowledge of how to use it in certain factories and environments has not. I think the Toyota Group enterprises are more adept at carrying out the continual Kaizen operations connected to TPS.”

According to Von Hippel (1988), a production network with better information sharing practices will be able to "out-innovate" production networks with ineffective knowledge transfer channels among users, suppliers, and manufacturers. The productivity of a network of businesses that collaborate with one another to produce a vehicle determines its price and quality (Grant, 1996). With suppliers, Toyota has established bilateral and multilateral knowledge sharing practices that produce superior network or inter-organizational learning. Toyota is the biggest Japanese corporation that has been voted to be the best managed by the business executives of Automobile Industry in Japan, and it is well-respected. Both Japanese and American businesses see Toyota as a pioneer in the field of continuous learning and improvement. Within Toyota and its suppliers, the adoption of lean production techniques (inventory reduction and value added per employee) has been the fastest (Lieberman et al., 1997). Membership in the Toyota Suppliers Association is positively correlated with supplier output.

The development and administration of a successful knowledge-sharing network depends on a number of elements. Toyota establishes organizational units with the specific mandate to gather, preserve, and disseminate pertinent knowledge throughout the network. By establishing guidelines or standards for network participation, it essentially solves the issue of free riders. In order to effectively transfer tacit and explicit information, Toyota develops a variety of procedures and nested networks inside the overall network and provides incentives for knowledge application and acquisition (Liker, 2004).

The ability of businesses to adapt new information to novel goods, processes, and organizational structures will become increasingly important to their competitive advantage. It is possible to identify broad trends that characterize the knowledge environment that organizations and businesses must operate in (Dost et al., 2011). Flat organizations, interdisciplinary collaboration, flexibility, networks and partnerships, and sharing are all on the rise. We observe new approaches to trend analysis that lean more toward flows and dynamics and draw attention to the shortcomings of conventional conceptual and empirical techniques. *Connectivity*, the ability for people to self-organize, *visibility*, and the notion that groups rather than individuals are best able to express their creativity are some **success criteria** for knowledge management systems. Other factors include *local* practices which can be articulated as beneficial and modified; *time and space*, setting aside time for learning and space for bringing people together and connecting; encourage knowledge-sharing by *rewarding good behavior*; monitoring is decreased by *trust*.

The inter-disciplinary networking of experts from other domains in order to foster individual innovation is a crucial component of Toyota's knowledge management strategy (Gold et al, 2015). Both the person-to-document approach, which serves as the foundation of a company's codification KM strategy, and the person-to-person approach, also known as customization KM strategy, are used to communicate knowledge (Hansen et al; 1999). A term containing cognitive, affective, and behavioral components is the attitude toward sharing knowledge.

To successfully create both organizational and inter-organizational knowledge, Toyota has used the following knowledge enablers: Toyota has succeeded in *instilling a knowledge vision* by putting into practice its "learn local, act global" strategy, which serves as a knowledge vision at



the same time; *managing conversations*, which facilitates conversation among stakeholders; *mobilizing knowledge activists*, who spread the message to everyone and are therefore crucial for cross-leveling of knowledge; *creating the right context*, which involves organizational structures that foster strong relationships and effect (Evans & Wolf, 2005). At Toyota, the idea of action learning has become popular because it is necessary for leaders to have strong relationship-building skills in order for all the enablers to function together effectively (Tichy & Cardwell, 2002).

In groups that highlight their reliance on either the codification or a personalization approach, Earl (2001) has described distinct KM strategies or "schools of thinking" and listed them. *Codifications sub-strategies* cover process, commercial (which is the management of intellectual property), strategic (which is the development of knowledge capabilities that can serve as the cornerstone of competitive strategy), and systems for establishing and enhancing knowledge repositories and on inspiring contributors. *Personalization sub-strategies* involves the creation of knowledge maps, directories, and networks to link people; the provision of groupware and intranets by organizations to support communities of practice; the emphasis, whether social or spatial, is on offering actual locations to encourage conversation. While some businesses concentrate on just one of these strategies or sub-strategy, many do so in a way that best serves their needs.

## **Challenges of KM**

Despite the growing significance of knowledge management (KM) to the development, operation, and survival of companies, there are numerous issues with its adoption and implementation. There is a lack of comprehension of its ideas, concepts, and practices. Challenges are attributed to failure causes that include a lack of a thorough definition, experiential knowledge, acknowledged theories, and a conceptual framework of knowledge management (Selamat & Ahmed, 2016). Some of the contributing causes are a lack of performance indicators, quantifiable benefits, insufficient management support, bad planning design, a lack of knowledge managers and workers who are proficient enough to handle and use that knowledge, and a weak organizational culture and structure. On the other hand, insufficient overall contributions, a lack of relevance, quality,

usability, excessive formal training, systemization, budgeting and exorbitant costs, a lack of responsibility and ownership, and defections are some of the elements that lead to failure (Liao & Wu, 2009). Firms have difficulties as a result of the failure of many organizations to pinpoint the variables that affect KM and the ways in which they affect workers' beliefs, objectives, and performance.

Because they can't find, hire, train, and retrain skilled people, many firms have trouble implementing KM. This problem is made worse by the fact that these organizations lack the administrative frameworks, organizational cultures, and utilization strategies to make the most of their resources. Another issue is that organizations struggle to effectively utilize cutting-edge technologies and human talent in order to maintain their competitiveness. Organizational strategies and support systems are also significantly impacted by the lack of strong frameworks needed to acquire, apply, or transfer knowledge. Dost et al. (2011) claim that important issues including commitment-fostering performance, productivity, and efficiency are also undervalued in companies.

Some action plans are advised to address the difficulties. Action-centered leadership must be the focus of organizations. The leaders should be fully aware of the worries and trepidations of the workers (Johnson et al., 2006). Expectations should be reasonable. Critical success depends on identifying areas that need to change. Radical adjustments must be made to outdated business culture and management philosophy. Success in a cutthroat environment is possible with the use of integrated tactics. Increase the strength by assembling talented and cohesive work teams. To improve the business, it is important to motivate employees to put their knowledge into practice. Create innovative business models that promote employee engagement and communication in order to change managerial behavior.

## **Conclusion**

Toyota has perfected the ideas of frontline management, strategic knowledge creation, and enabling through the application of its "learn local, act global" strategy. Toyota has also mastered the difficulties of locating, nurturing, and redeploying knowledge resources within its global operations and of unleashing the power of tacit knowledge (Asakawa & Lehver, 2003). The ability

of a company's functional departments, business units, and subsidiaries to successfully collaborate through exchanging knowledge and developing new goods and services is the foundation for the emerging economies of scope (Hansen & Nohria, 2004). Strong regional initiatives integrated into an international whole produce better results. An essential requirement for competitive advantage, company success, and survival in the information economy will be an understanding of the need for continual learning and improvement.

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