

Management Review: An International Journal · Volume 13 · Number 2 · Winter 2018

ISSN: 1975-8480
Volume 13 · Number 2 · Winter 2018

Management Review: **An International Journal**

KINFORMS

Management Review: An International Journal · Volume 13 · Number 2 · Winter 2018

Abstracted in ProQuest
Abstracted in Google Scholar



Management Review: An International Journal
December 30, 2018
ISSN: 1975-8480

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Organizational Learning Process through M & A: The Case of F Company

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Received Nov. 16, 2018, Revised Dec. 9, 2018, Accepted Dec. 28, 2018

ABSTRACT

In this research, externally acquired knowledge was used to study the process of forming new organizational routines. Specifically, based on Huber's (1991) organization learning process, we analyzed the theory of knowledge absorption capacity and stickiness of information. We conducted a case study of F company, which acquired knowledge through M & A, and in the course of that process, we learned about the organization and clarified the process formed in the organizational routine of new product development. This study of organization learning was mainly simulation verified and makes a theoretical contribution to the concrete execution of analysis using actual corporate cases.

Keywords: *Organization learning, Product development, Knowledge acquisition*

INTRODUCTION

An organization selects necessary knowledge internally and externally, and learns by making use of this knowledge. In the study of the organizational learning theory, it is assumed that an organization acts based on internally accumulated knowledge. The organization acquires knowledge and experience based on that knowledge. Then, it interprets the experience and accumulates it as knowledge (Huber, 1991). Common behaviors and knowledge within an organization are called organizational routines. Organizations regularly examine routines to make improvements, which, along with corrections, are necessary to improve efficiency. Organizational learning is (1) acquiring knowledge by some means, (2) capturing that knowledge, (3) creating an organizational routine by sharing that knowledge, and (4) conducting activities that improve efficiency.

Why do organizations need organizational routines and organizational learning? Since a company's knowledge differs from that of others, knowledge is the source of a company's competitiveness. However, an organization's internal or external knowledge acquisition does not necessarily mean that it ultimately utilizes that knowledge. Rather, by incorporating that knowledge, the organization forms an organizational routine. This is because organizations that excel in absorbing knowledge acquired internally and externally also excel in innovation and performance.

Organizations continuously seek new knowledge and incorporate it to provide new product frameworks and services, and to adapt to and become competitive in the external environment (Oe, 2012). A problem arises as to whether an organization can incorporate newly acquired knowledge and create new organizational routines in the presence of existing organizational routines. An organization may want to capture new knowledge to

add to its existing knowledge base. This existing knowledge makes the new knowledge understandable within the organization.

As described above, previous research shows that knowing the kind of knowledge the organization already holds becomes necessary to acquire new knowledge. In the organization learning theory, when considering the transfer of new knowledge, an organization's sources of competitiveness are its awareness of how it shares new knowledge and forms organizational routines.

Several difficulties are encountered in the process of changing organizational learning and organizational routines. The most important point of view is to use various types of knowledge, information, and know-how accumulated in the organization to form a new organizational routine.

Iwao (2015) defined the organization routine from the study of Feldman and Pentland (2003) as follows. "Organization routine is a pattern of behavior groups that are recognizable and crisp interdependent relations performed by organization members." Rules create individual actions and various actions create new rules. However, using existing information inevitably results in contradictions in the organizational routine. Therefore, it is important for an organization to effectively distribute, interpret, and organize its newly acquired knowledge (Huber, 1991).

However, the incorporation of new knowledge itself does not necessarily lead to competitiveness, and thus, it is important for the organization to consider the new knowledge in its routine. Also, it is difficult, if not impossible, to change all organizational structures overnight. When enterprises change something, they must perform essentially contradictory acts—relying on existing know-how while dismantling and rebuilding it (Miyao, 2016).

There is not enough research that discusses actual corporate cases to improve the understanding of the changes in organizational learning and organizational routines. Researchers

need to accumulate more knowledge about the adaptation process of a change in organization learning and organizational routine and to confirm what process to analyze.

The purpose of this research is to discuss what process the knowledge acquired by M & A through enterprise has gone through to create a new routine. It is to propose how to share the acquired knowledge. In previous studies, many simulation verifications have been done. However, in this research, we apply theoretical and practical implications by analyzing the process of generating new routines from knowledge acquisition based on case studies. Specifically to address the problem of how to acquire knowledge, capture knowledge, and form a new organizational routine within the constraints of a major printing equipment manufacturer.

LITERATURE REVIEWS

Organizational learning process

Huber (1991), as cited by Takahashi (1998) stated that by expanding the concept of organizational learning, the subject learned through the information processing, when the range of the potential behavior of the subject changed. In addition, Huber (1991) systematically summarized the organization learning process of reviewing previous studies and storing the process of organizational learning in the organizational memory after the organization acquires new knowledge.

The organization learning process is comprised of four elements—the processes of knowledge acquisition, information distribution, information interpretation, and organizational memory (Takahashi, 1998; Oe, 2012). It is necessary to understand the organizational learning theory by confirming the details of the classification of the four construction processes of Huber's (1991) organization learning process.

Knowledge acquisition is the process in which an organization acquires knowledge in order to search for further knowledge and information that is distributed and that exists in various places inside and outside the organization, and to create a new organizational routine,” or “the process in which an organization acquires knowledge through searching for knowledge and information that is distributed and that exist in various places inside and outside the organization, with the aim of using that knowledge and information to create a new organizational routine.. In short, it is a process in which an organization acquires information and knowledge. The processes within knowledge acquisition are congenital learning, experiential learning, vicarious learning, grafting, and searching and noticing. Congenital learning is the process of inheriting knowledge from the environment, and that knowledge can be discovered and then acquired before an organization is founded. Meanwhile, experiential learning is learning that acquires knowledge by experiencing an organization’s activities.

According to Takahashi (1998), organizational experiments are experiments that an organization performs to acquire knowledge while conducting its own experiments. Organizational experiments emphasize the learning phase of the new reference framework of double-loop learning, organizational self-appraisal, and niche expansion. Organizations that experiment (experimenting organizations) for adaptability have the ability to find new niches, unintentional or unsystematic learning, and experience-based learning curves. Vicarious learning is learning that attempts to acquire knowledge by imitating the strategy, management, technical knowledge, and other aspects executed by other departments and companies. Grafting is learning that attempts to acquire knowledge by incorporating new human resources who have knowledge and skills that the organization does not into the

organization through M & A, joint ventures, and other ownership forms. Searching and noticing is learning that attempts to find and acquire new knowledge necessary for environmental adaptation from the external, ever-changing environment.

Information distribution is a process for transferring new information and knowledge an organization acquired internally through knowledge acquisition. In some cases, new knowledge is created by combining newly acquired information and knowledge with other information and knowledge.

According to Oe (2012), the information distribution process is said to be the key to success in the subsequent information interpretation process. Information interpretation is a process that aims to deepen the understanding of new knowledge disseminated within an organization, and to promote a common understanding of the knowledge, as the first step in this process, the newly acquired knowledge is used to create an organizational routine that is ready to be stored in the organizational memory. Organizational memory is the accumulated knowledge intended for utilization. Organizational routines not only exist as tacit knowledge but may also be recorded by sentences or stored in an electronic medium such as an electronic bulletin board or e-mail (Oe, 2012).

To summarize the above discussion, we will collaborate with knowledge new knowledge acquired through "information distribution" knowledge / information obtained in "knowledge acquisition" and transfer knowledge into the organization. And "information interpretation" understands new knowledge by newly having common recognition. A new organizational routine is formed based on it and consequently, the routine is stored as a basic activity of a new organization in the organizational memory. Routines with faster speeds and detailed content changes, and that

can be seamlessly transitioned (to replace existing routines) are companies' competitive advantages (Takahashi, 1998).

Organizational learning theory

Huber's (1991) organizational learning process reveals the structure in which organizational memory creates new organizational routines. Although Huber's (1991) description is abstract in clarifying the process of organizational learning, it is clear in describing the series of routine processes within organizational learning, such as input, conversion, and output of organizational action. The organizational routine is an inevitable phenomenon that occurs in many aspects of organizational behavior and that aims to reduce organizations' wasteful actions in order to increase the efficiency of organizational learning. (Otsuki, 2007).

Levitt and March (1988), as cited by Takahashi (1998), stated that organizational routines contain forms, rules, procedures, practices, strategies, and descriptions, and that organizations are built routinely and act through routines they have implemented. As these defined organizational routines experience more chain of routine tasks, they lead to organizational accumulation. As a result, organizations increasingly use current routines to achieve goals, such as increasing productivity in current operations. However, this reliance on existing routines may decrease an organization's awareness of the importance of acquiring diverse experience such as acquiring more efficient knowledge, searching for new routines, and implementing excellent routines (Shiroishi, 2009). Therefore, it is generally understood that organizational routines are stable, fixed, and invariable once constructed; in other words, once set, organizational routines are difficult to change.

However, organizational learning and organizational routines need to change as markets and the environment change. These

characteristics of organizational routines are common phenomena in any organization. Ince an organizational routine is embedded in the action patterns of organization members, the more knowledge is accumulated in the organization, the more routines the organization promotes (Otsuki, 2007). In addition, according to Otsuki (2007), when certain conditions are met, the organization's work and routine are newly reviewed, and changes in the organizational routine are realized. According to Feldman and Pentland (2003), mutual understanding of routines and a communicable relationship at some point enable understanding the context of routine execution. This is because each member advances the discussion of task execution based on the work relationship of work, which in turn enables members to adjust their work according to each other's. Work relationships increase the possibility of building new aligned relationships. Feldman and Rafaeli (2002) stated that organizational routines promote a common understanding of what actions organizational members should take in their mutual relationships and across the organization. Therefore, the success and failure of an organizational routine change is the key to the recognition and action of members involved in the change. The source of competitive advantage lies in the ability to dynamically integrate the management resources of the entire enterprise into competitiveness so that individual business can adapt quickly to changing occasions. How to integrate this management resource as competitive strength, a key factor to create that capability is required for organization learning which is continuously done through partnership and outsourcing (Nagayama, 2017).

When applied to Huber's (1991) organization learning process, the processes of information distribution and information interpretation are processes that aim to deepen common recognition of the whole organization. Therefore, it plays a big role

in the change in an organizational routine, and the ability to adapt the knowledge gained through knowledge acquisition to the whole organization is important.

Knowledge absorption capability theory

The process by which an organizational routine change through new knowledge acquisition can be confirmed using Huber's (1991) organizational learning process. However, if the organization can acquire any knowledge, can it share and incorporate such knowledge? Can it use the acquired knowledge to create new organizational routines? On the other hand, it is necessary to confirm the organization's knowledge absorption ability, which is a more comprehensive model than organization learning. Cohen and Levinthal (1990) defined knowledge acquiring knowledge absorption ability as the ability to understand and utilize knowledge by knowledge of existing knowledge, by noticing the value of new information. Knowledge absorption capability is important for organizations to formulate a new product framework

1. To notice new knowledge,
2. To understand (absorb) that information as important knowledge for strategy, and
3. To combine existing and externally obtained knowledge, and to convert that knowledge to develop new products and services (Cohen and Levinthal, 1990). Organizations combine new knowledge with knowledge-absorption capabilities and the ability to learn and retain knowledge in order to find more new knowledge and perform routine work (Cohen and Levinthal, 1990).

Kogut and Zander (1992), as cited by Oe (2012), considered the function of combining an organization's existing knowledge and externally acquired knowledge into a capability, and this ability creates new knowledge makes innovation possible. However, it is important to note that knowledge binding capacity and knowledge

absorption capacity are also important for innovation and organization learning, as the organization acquires new knowledge, and may also affect the complexity of the information to be acquired. In general, complicated information is extremely difficult to communicate to others.

After highly complex information is acquired, it does not necessarily flow to the organizational memory for subsequent processes. The organization implements existing organizational routines that are easy to handle.

Stickiness of information

Why is it that after being acquired, knowledge does not necessarily transfer to the organizational memory during the organizational learning process? This question can be answered with the concept of stickiness of information. According to von Hippel (1994), stickiness of information is defined as the marginal cost required to transfer the information of a given unit to a particular location in a form available to the recipient of the information. When this cost is low, the stickiness of information is also low, and when this cost is high, the stickiness of information is also considered high. Investment amount of knowledge sharing is also important (Mei-Ying, Yun-Ju and Yung-Chien, 2009). Von Hippel (1994) presents the following about the cause of stickiness of information.

The nature of the information itself
Knowledge of formats such as manuals or tacit knowledge
such as know-how
Whether the number, type, and interrelationship of
information is complicated
Amount of information that must be relocated

Attributes related to the sender and receiver of
information

The reliability of the information source

Is the similarity of the receiver's knowledge absorption
ability to its past knowledge

According to von Hippel (1994), as cited by Song and Akiike (2014), product development requires (1) information on users' needs and (2) technical information on the manufacturer's side, and the stickiness of each type of information is high in the case that product development solves the problem while consulting between users and the manufacturer.

Ogawa (2000) pointed out that stickiness of information is a difficult concept to understand in terms of the cost (difficulty) required for the recipient to transfer the information in a usable form, and this cost includes the difficulty of using comprehensive information. Ogawa (2000) also pointed out that the transfer of information in a form that can be used by the recipient includes information on all activities up to the point that an organization can discover the existence of certain information, understand its meaning, and utilize it. As can be seen from von Hippel's (1994) and Ogawa's (2000) definitions, when information is transferred, the information held by the sender changes into a form usable for the recipient.

Sugiyama (2001) called the cost of knowledge transfer "knowledge stickiness," and if knowledge is formalized and clarified in advance in the form of design drawings, manuals, and others, it is easy to relocate that knowledge and its tackiness is low. On the other hand, it is expensive for the sender to transform implicit knowledge into tacit knowledge such as skill, and thus, knowledge stickiness is high. Acquired knowledge and its relationship with other knowledge are also complex. If the acquired

knowledge is a part of a large system of knowledge, relocating only that acquired knowledge does not work completely; thus, it is also necessary to relocate knowledge in the whole system and the relationships among other components. In other words, knowledge transfer does not simply transfer formal information, but more importantly, tacit knowledge. Since the combined knowledge is unique to the organization, the knowledge relocation is said to be difficult. The power of knowledge in acquisitions through various collaborative avenues. Distinctive capabilities are needed for organizations seeking knowledge (Debapriyo and Sanjay, 2012).

In these previous studies, stickiness and knowledge transfer difficulty are reflected in the relocation cost. However, it is inadequate to describe relocation difficulty of relocation, that is, tackiness, only with relocation cost. Szulanski (1996) pointed out that qualitative information such as whether problem solving during information transfer is routine and the kind of problem solving. When confirming the measurement result, the knowledge transferred can be used when the execution stage ends. Changes are made to the knowledge even after it becomes available in order to achieve satisfactory performance or develop an organizational routine. Just because knowledge can be transferred to other organizations in a useable manner, as shown by Szulanski's (1996) findings, does not mean that the performance improvement of the transferring organization can be seen immediately. Changes need to be made to practices even after they become usable so that the organization can achieve satisfactory performance at the relocation destination. According to Wakabayashi and Oki (2009), stickiness in knowledge transfer is a broad sense of stickiness, which combines stickiness in a narrow sense and portability. At least conceptually, it is necessary to transplant the difficulty of extracting knowledge from the transferring organization in a usable form (stickiness in a narrow sense) and porting the

knowledge retrieved in a usable form. and both of these steps can be difficult.

Funatsu and Sugiyama (2016) presents three hypotheses of knowledge transfer. First, concerning the relationship between novelty of knowledge and motivation and possibility of use, secondly, additional management such as maintenance and accumulation of knowledge is required depending on the uncertainty of utilization and the nature of knowledge Thirdly, the institutional complexity of research and business can bring about a trade-off relationship between relocation and utilization.

From these previous studies, it can be said that change in organizational routine, knowledge absorption ability, and stickiness of information are closely related in organization learning.

Research question

Generally, the higher the stability of routine tasks and operations of an organization, the more paradoxical is the change required. This means that even if the routine is incorporated into the organization and organizational behavior becomes more efficient, the organization still cannot adapt to the new situation. To overcome this situation, it is necessary to build an organizational structure that increases flexibility and the degree of routinization. Although previous studies on organizational learning were aware of the problem of why a change in the organizational routine goes through the organization learning process, they did not provide sufficient answers. Simulation verification and deductive approaches are also implemented as main verification methods. Yokozawa (2018) "What kind of process is the knowledge transfer to the corporate community, what kind of stages are in the process, what kind of promotion / inhibition factors will affect each stage?" There are need for research.This

case study examines a few issues using an inductive approach from a realistic viewpoint as a mechanism of a new organizational routine through organization learning. In this research, I hope to add new knowledge about what kind of process the knowledge acquired grafting goes through to create a new routine.

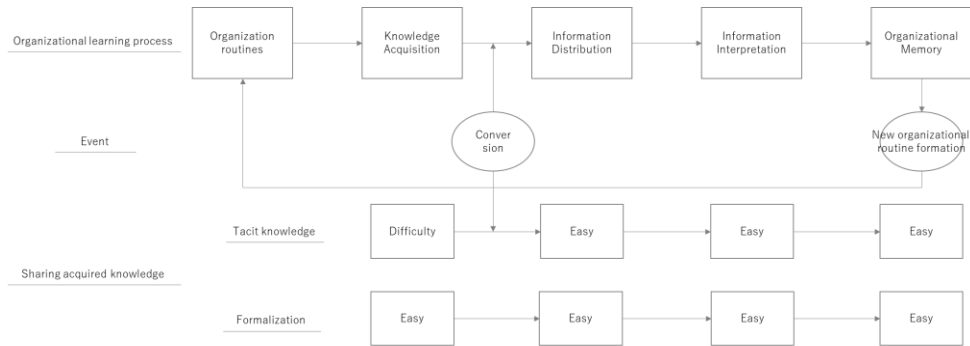
Among the existing organizational routines that a company cultivates, it is necessary to ask what kind of change the product development process undergoes through organization learning. Therefore, the research question is set as follows.

RQ1: What kind of organizational learning process does knowledge acquired through grafting go through to create a new product development organizational routine?

Framework

We present the research subject as a model of a discussion about organization learning, change of organizational routine, and stickiness of information. The first research topic is that if a company has difficulty distributing within the organization knowledge acquired with a high cost, the knowledge acquired cannot be utilized, and a change in a new organizational routine does not occur. In the process of constructing a new organizational routine through Huber's (1991) organizational learning, routines that have undergone the processes of knowledge acquisition, information distribution, and information interpretation are stored as organizational memory, in which knowledge is organized and from which knowledge is learned in order to construct a new organizational routine.

However, in this research, it is assumed that an organization can easily develop an organizational routine by acquiring new knowledge. Thus, a question arises as to whether an organizational routine can indeed be constructed simply by acquiring knowledge. This research topic is summarized in Fig 1.



Source: Fixed by the author based on Huber (1991)

Figure 1. Present study's framework of organization learning process

In this research, we analyzed organization learning and knowledge sharing based on this framework. Specifically, we focused on acquiring knowledge through grafting. When analyzing knowledge acquisition, it is important to note that knowledge can be acquired from both inside and outside the organization. Also, the acquired knowledge can have highly complex information less complex information, which is relatively easy to acquire. This research focused on grafting because knowledge can be transferred from outside an organization and advanced technical knowledge is difficult to share. M & A development and philosophy Management system and company-wide project activities are situations where organization learning re-recognizes common objectives by diverse people from different inter-organizational relationships (Makitani, 2017). Thus, there exists mechanisms for knowledge sharing because the acquired knowledge is difficult to share and adapt owing to differences in development method and organizational culture.

METHODOLOGY

Case study reason for selection

The case covered in this research is about changes in product development for multifunction devices. In the case studies, we examined changes in organizational routines and processes in product development mainly for F company multifunction machines.

This case was chosen because the company and product characteristics align with the research question. Also, in this research, only one company, F company, was examined. According to Yin (1994), a single-case study is useful for discovering cases of new facts in the extreme or unique case, and compared to multi-case studies, research strategies are not vulnerable and h recognizes the necessity of intellectual and creative adaptability to deal with the unknown conditions. that single-case studies face. In addition, the multifunction machine industry and F company are old industries and companies. For that reason, much knowledge has been accumulated in a historical industry and much knowledge has been learned by the company, and it can be assumed that an organizational routine has already been established. This study examines how F company, which is successful for large companies(in the B-to-B) market for a high value-added product, clarified the process that formed the product development framework for personal market(B-to-C) multifunction machine.

Data collection and analysis methods

For the case studies, primary and secondary data were used. The primary data were obtained primarily through interviews with people involved in product development for B-to-C multifunction machines. The interviews were conducted from August to

September 2018. Each person was interviewed twice, and each interview lasted about 1 hour and 30 minutes to 2 hours. The interviewees responded mainly to prepared questions on a questionnaire. The interviews, which were semi-structured, focused on the dialogue progress and open-ended questions. We reviewed and confirmed the interview content and, as much as possible, excluded responses that showed discrepancies in the respondents' understanding of the questions. In addition, I identified the interview responses to be checked as my analyses progressed and asked the interviewees follow-up questions by mail.

The secondary data were obtained from secondary sources such as corporate news and releases, securities reports, and survey report materials. The data from these materials were used to confirm the interview content and complement the facts that could not be grasped from the limited interviews. and the secondary data were analyzed according to the research question.

CASE STUDY

Overview of F company

F company's consolidated sales are about 1,000.0 billion yen (Structural reform After temporary cost of 70 billion yen)in fiscal year 2017, and its operating profit is about 14 billion yen. The company is No. 1 terms of the world market share (Company Quarterly Industry Map 2017, 2016). The number of employees is about 40,000 for consolidation and about 8,000 for independent.

Outline of major printer products

In this research, we focused on the office product and printer business that has the composition in the company's sales. F company's office products and printer business is divided into products for major markets (B-to-B products) and products for

small and medium enterprises and individual markets (B-to-C products and B-to-B-to-C products). In this research, B-to-B products were defined as multifunction machines with a large size, high performance, and high price framework, while B-to-C products were defined as printers with a compact size, multifunction peripherals, basic functions, and low-cost framework.

F company has succeeded in the market of large, high-added-value, and high-performance products, namely multifunction printers. Multifunction printers are understood as very complicated products.

Meanwhile, Canon and other specialized printer manufacturers (Hp, Seiko Epson, Lexmark Co., etc.), as well as PC manufacturers, have succeeded in supplying products from their own brands and original equipment manufacturers (OEMs), namely printers that can compete on production and mass consumption volume. Before the market became fiercely competitive, price was a major factor in competitiveness. In the copier/multifunctional machine business, which earns revenues over the long term through rental contracts and after-sales service; further, customers can deal with printer maintenance at the time of use, and in terms of cost, I was able to estimate the profit from after-sales over several years. However, low-end printers are consumer goods and it is fundamental that they are maintenance-free; in extreme cases, new products are released every half a year. Therefore, lead time delays are out of the question, and since the second half of the release will be a game, it is necessary to completely satisfy quality and cost requirements at the time of release. From these, we can see that the business model is completely different.

Outline of printer industry

F company was behind its competitors in terms of brand name in the printer industry. We take a look at F company's efforts on

consumer products in detail. F company had been developing low-end printer engines before developing consumer printers. A full-scale OEM business was launched adopted by two major PC makers. And the production cost was requested to be as low as the digit was different from the conventional F company common sense. Hardware and engine parts are mainstream in any OEM, and controllers, which play a role of controlling them, were developing and adjusting at the OEM Client.

In October 2001, F company acquired N company's laser printer business and established the F company printing system. Beginning A Company OEM product from 2003. At the same time, the president of Asia-Pacific company established a printer channel. Since A Company does not manufacture printer controllers, there was a demand not only for engines and hardware but also for other parts. Rather than procuring and selling products from the printer channel to development, F company requested to develop its own genuine printer products, including hardware, engines, and controllers. To satisfy those requirements, F company developed printer products by combining its excellent engine knowledge with N company engineers' knowledge of controllers . OEM products for Europe and North America were able to newly build the ability to integrate controller technology and engine technology. Using its ability to integrate the new controller technology and engineer technology, F company was able to develop and manufacture its own printer products for the domestic and Asia-Pacific markets. The D printer product, the most successful printer in the market, is a successor to the product that integrated the new controller technology and engineer technology.

Overview of D printer product

Through questionnaires, we confirmed that the D printer product, a mainstream F company product, was the most

successful in the B-to-C or B-to-B to-C market. The D printer product was released by F company in 2011 and is produced in China.

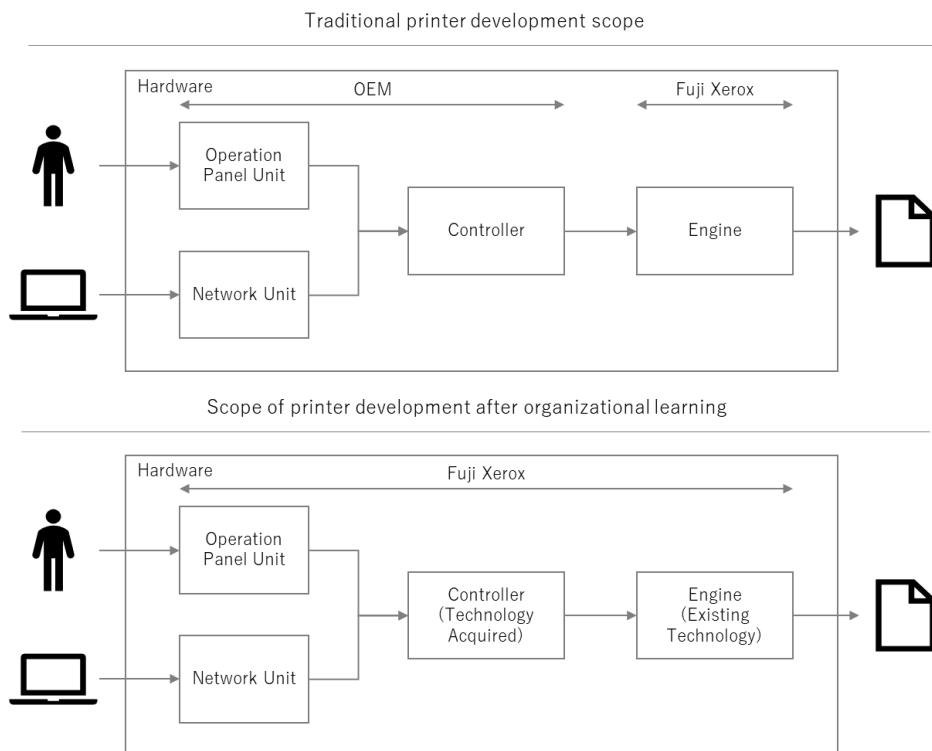


Figure 2. F company's printer development scope

It consists of about 500 parts (the ApeosPort-V C5576, a F company B-to-B product, consists of about 2,000 parts). To make sure the final product performs its required function, the man-hours necessary for optimizing the design parameters of the key

component comprise 60% of the total product development man-hours. In addition, the number of custom parts, materials, and elements required is very high, and the design parameters of the components need to be finely adjusted to each other. The restrictions on miniaturization and weight reduction were significant, and so were the mutual dependency between parameters in the structural design of parts, such as part interference and weight balance. Based on these characteristics, the D printer product can be said to be a highly complex product.

FINDINGS

Knowledge-sharing process

In the process of F company's organizational learning, grafting was used as an approach to acquire and successfully adapt knowledge so that it can be used effectively. By doing so, the company underwent a process of distributing information on new product development and interpreting it within the organization. We can check the flow to be stored as a new routine in Fig 3.

Regarding knowledge acquisition through grafting, in this case study, F company purchased N company's laser and printer business in October 2001, in order to establish the F company Printing System and try to catch up with competitors. However, despite acquiring new knowledge, F company originally specialized in developing multifunction machines defined as B-to-B products, which are large, high-performance, and have a high-priced framework. For this reason, F company's organizational routine for the product development may have already been embedded.

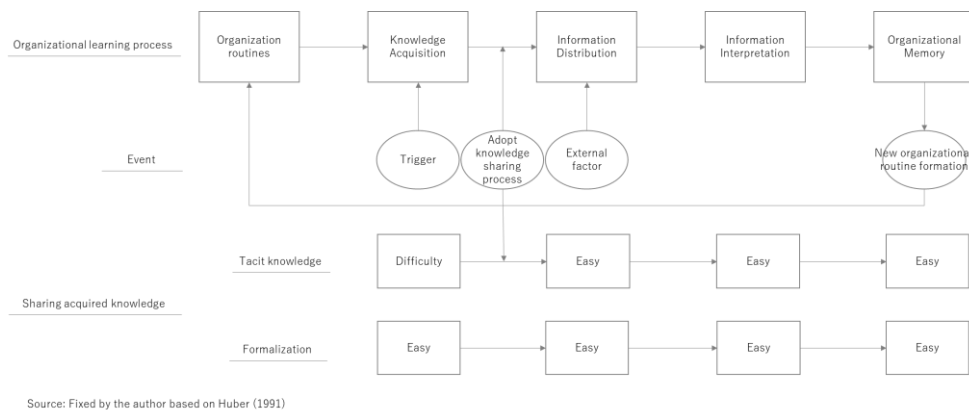


Figure 3. Factors of change in organizational learning process and complexity of information

However, successfully acquiring N company’s knowledge of the controller technology did not necessarily mean that the knowledge was effectively used immediately. In addition, F company had been developing low-end printer engines before developing products for consumer printers. While it acquired the knowledge of controller technology from N company, it acquired its hardware and engines from OEMs. In this way, knowledge acquisition, which is the first step in organizational learning, cannot proceed to the next step, information distribution, and this knowledge was utilized completely by the organizational routine.

Since A Company does not manufacture printer controllers, there was a demand not only for engines and hardware but also for other parts. Rather than procuring and selling products from the printer channel to development. At the same time, the company tried to satisfy the demand for marketing information, since the company wanted to sell its own printing products rather than procure and sell such products—from printers to channels.

In other words, it was difficult to share within the organization the technical knowledge acquired through grafting, and it was important to combine it with marketing information and knowledge, which is an external factor. As Ogawa (2000) pointed out, changing information into a form that can be used by the recipient makes it possible to transfer that information to information distribution, information interpretation, and product framework development. Compared to the development of existing multifunction devices, a new organizational routine that develops about three times faster and one tenth is now being formed.

In this research, we examined the combined ability of acquisition of knowledge and change of stickiness of information through case study findings. We summarized these findings and considerations into a proposition.

Proposition 1: As the framework of existing products are determined, it is necessary to combine newly acquired technical knowledge with marketing information is necessary in order to form organizational routines for new product development through organizational learning.

In the framework of the same product, the newly acquired knowledge alone is a highly complicated component. Therefore, sharing the knowledge is difficult, and the knowledge is not highly appreciated within the organization and could not be utilized. However, by incorporating the newly and independently acquired knowledge into the framework of the existing product, information was distributed, and the knowledge absorbed within the organization was interpreted.

CONCLUSIONS AND IMPLICATIONS

To understand the framework of the knowledge acquired, that is, the technical information, it is important not only to acquire

that knowledge but to combine it with certain marketing information (i.e., be absorbed or adapted by the organization). It is necessary for the organization to possess the driving force of the capability management technology reflecting absorption capacity (Jaehun and Sang, 2006). By doing so, the knowledge can clearly proceed to the process of interpreting information by the organization. Specifically, the following process was observed.

1. Through knowledge learning, a new product development framework is conceived by introducing knowledge that is difficult to share within the organization, unlike the existing product development framework.

2. An organization with an existing product development framework combines newly acquired technical information with marketing information to form a product development framework as knowledge that can be shared within the organization.

If sharing the knowledge is difficult knowledge, it cannot be disseminated within the organization, so it remains in existing routines without being allocated (provided) as it is.

3. The framework of new product development that can be shared within the organization is allocated (provided) and interpreted within the organization. Then, it is generated as a new organizational routine.

We conducted a case study of F company and found a process to create a new organizational routine. In other words, a new product development framework was formed by combining (technical) knowledge, which was difficult to share and was acquired from outside the organization using the graft model, along with market knowledge. The new knowledge's interpretation and adaptation to product development is memorized by the organization, and a new organizational routine was formed. It has been shown that existing organizational routines are a changing process. This is the conclusion of this research.

To understand the framework of the knowledge acquired, that is, the technical information, it is important not only to acquire that knowledge but to combine it with certain marketing information (i.e., be absorbed or adapted by the organization). By doing so, the knowledge can clearly proceed to the process of interpreting information by the organization. Specifically, the following process was observed.

Theoretical implications

In past research on organization learning, many researchers, mainly knowledge acquisition, have been advanced. The area of research of organizational routines by organization learning is not a narrow-meaning discussion of acquiring certain technologies and simply combining them. By combining technical information and marketing information, it is an analysis framework covering both innovation theory of product development and marketing theory of how to penetrate the organization and create new organizational routines.

Practical implications

The case of this research is that the B-to-B product framework formed a new routine for B-to-C products through the organizational learning process through which organizational routines are formed. To develop B-to-C products, the reactive development that surely answers the needs conveyed by the OEM and the proactive development that thinks about how to from both the development and initiative sides. are important. As such, with recognition, the company focused on the user-operated controller and made modular improvements. By doing so, when looking at the engine, network, and controller, the company saw that it was a base product, but by modularizing the controller part, the organizational adhesion lowered. In this organization learning

process, a strategic judgment of an important company is whether it is necessary to newly create the organization's scaffolding, or to simply grow using the existing scaffolding. The conditions that help determine an effective strategy are restricted by the company's situation, industry, and product framework, so careful management judgment is needed from time to time.

Limitations and future issues

Several challenges remain in this research. The first challenge is the implementation of F company's single case study on the formation of new organizational routines through organizational learning. By using a single case study, there is a possibility that this case seems to be the beginning at the beginning, and you can understand something that does not apply to this case. Although this research contributed to knowledge and theory construction, it has not established a general pattern (Yin, 1996).

The second challenge is the transfer of the laser and printer business from N company to F company in 2001, after which a subsidiary was established. Concerning the knowledge held by N company, a deeper discussion is necessary on how concretely knowledge was shared within the F company by the mechanism. Since it is hard to imagine that knowledge, including implicit and formal knowledge, was transferred from one individual to another and deployed, it will be meaningful to analyze the structure of the knowledge sharing process to expand applicability.

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Managing Creativity and Innovation in the Cultural Industries: Evidence from Three Cultural Organizations in Canada

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Received Oct. 23, 2018, Revised Dec. 9, 2018, Accepted Dec. 29, 2018

ABSTRACT

In a changing environment, the survival of small organizations becomes critically important not only for themselves but for the competitiveness in an entire given territory. Thus, creativity and innovation in any organization are vital to its successful performance. Therefore, knowledge or idea exchange is an important function of groups in organizations. Idea sharing in groups can be productive under two conditions. One important factor is the extent to which group members carefully process the ideas exchanged in the group. Another is the opportunity for group

members to reflect on the ideas after the exchange process. Consequently, this research study aims to identify how organizational creativity and innovation contribute to the success of small organizations in the francophone linguistic minority region in Canada. We based our research on the case study analysis of three cultural organizations in New Brunswick, which allowed us to identify a triptych of organizational creativity and innovation based on employees, clients, and the local community commitment.

Keywords: Creativity, Innovation, Values, Flexibility, Very small businesses (VSB). New Brunswick

INTRODUCTION

Creativity is defined as an ability to link various individual elements together in order to form new or more complex ideas that have a scientific, esthetic, social, or technical value. Such a new combination is the result of the interaction between knowledge, intelligence, experience, interest, and enthusiasm (Carrier and G  linas, 2011; Leonard and Swap, 1999; Amabile, 1997). For Hills, Shrader and Lumpkin (1999), creativity must take into account the individual, the new product or service itself, the creative process, and the environment.

There are many definitions of creativity. Some researchers consider creativity as the generation of imaginative new ideas (Newell and Shaw 1972), involving a radical newness innovation or solution to a problem, and a radical reformulation of problems. Other researchers propose that a creative solution can simply integrate existing knowledge in a different way (Perking, 2017). In the context of organizational creativity, the most widely held

definition is the one stated by Amabile (1983). Amabile (1998) defines creativity as the generation of new ideas that are original and useful. In other words, creativity requires knowing how to find a solution or a new idea that can be adapted to organizational realities. Since creativity perceived to be an individual quality, it is then, modeled to work at the organizational level. We also propose that creativity, applied to an organization could be defining, as the ability to move and harmonize effectively within a group thus releasing the creative potential of an individual in an uncertain and ever-changing world. Therefore, the standard analysis of creativity within an organization is based on individual, group and organizational strengths (Prerry-Smith, Mannucci, 2017).

The purpose of this study is to learn how very small cultural organizations (VSB) manage their creativity and innovation in a Francophone linguistic minorities environment, considering that these organizations are facing with financial, resources and skills issues (Landry, 2014). A linguistic minority environment is a group of people who are a minority in their society to still speak a minority language. For instance, speaking French in Canada (except the province of Quebec) would be an example of linguistic minority (Landry, 2014). Thus, organizations operating in that context need more creativity and innovation to succeed. As mentioned earlier, creativity is the capability or act of conceiving something original or unusual (Amabile, Conti, Lazenby, Herron, 1996; Amabile, 1998). I tend to think of an innovation as a new product, but you can innovate with a new process, method, business model, and partnership, route to market or marketing method (Aldag, Fuller, 1993; Ahuja, 2000). Consequently, innovation is a process that transforms unique, creative ideas into new realities: products, services, or processes that deliver greater value or benefits (Berg, 2016). Such transformations can be

incremental, evolutionary or radical in their impact on the status quo (Craig and Kelly, 1999). Some authors have addressed the issue of creativity in SMEs (De Dren and West, 2001; Earley and Gibson, 1998), but some points have been neglected, and the research question that should be asked is: How is creativity manifested, structured and developed in small organizations in minority environment?"

As such, the study of creativity effects through cultural innovation teams is an important research field. Yet, little is known about cultural innovation teams and their creative potential (Earley and Mosakowski, 2000; Kirkman and Shapiro, 2005; Cox et al., 1991; Dahlin et al., 2005). Our study therefore aims to explore effects of cultural differences in teams on creativity and innovation (Hofstede, 1983, 1984; Hall and Hall, 1990).

LITERATURE REVIEW

Creativity and innovation

Creativity and innovation are two largely interwoven concepts (Boudreau and Lakhani, 2015; Gibson, 1999; Janssen et al., 2004; Kim, 2018; Miron et al., 2004). Creativity is produced at the individual level and refers to new products and ideas, whereas innovation is the successful implementation of those products at an organisational level (Sanjiv and Gneezy, 2016; Gibson, Vermeulen, 2003; Oldham and Cummings, 1996). However, this conception of creativity and innovation does not consider that a new product emerges from a complex process on experimenting and implementing solutions to new problems. Therefore, creativity explicitly has to be extended by the reconfiguration of known approaches into new alternatives (Kim and Phillips, 2013; Perry-Smith and Shalley, 2003). Ideas or components of innovations can come from many sources, often from experimentation,

environmental changes, developments by other firms (Hasan, and Koning, 2017; Jansen and West, 2004; Kurtzberg, 2005).

Levels of creativity

Individual creativity

As old products are replaced by new, creativity is the identifying factor changing the way we do things (Mathisen, Einarsen and Jorstad, 2004; Oldhan and Cummunings, 1996). Whether radical or incremental innovation, creative dynamism at the individual level has a cumulative effect on the innovation process (Perry-Smith and Shalley, 2003; Van de Van, 1986). The idea of a lone genius distracts us from the more useful focus on the higher potential source of creativity: the organization as a collective of creative people working as a team (West, 2002). To promote organizational creativity among individuals, attempt to remove barriers and obstacles that hinder creativity and denote the lone inventor as a myth (Woodman, Sawyer and Griffin, 1993; Xiao and Tsui, 2007).

The unique psychology of every individual plays an important role in individual creativity. Nonetheless, according to Amabile (1997), the required creativity skills can be improved by learning and practicing techniques that aim to increase the cognitive and intellectual independence of the individual. For his part, Lubart (2003) identifies six-character traits, both theoretical and empirical, that are significantly related to creativity: perseverance, tolerant of ambiguity, open to new ideas, individualism and risk-taking. Besides, several studies have shown correlations between intrinsic motivation and creative performance of individuals. For example, Amabile (1997) finds that the motivation to realize a task can make the difference between what an engineer can realize and what he will realize. What he can realize depends on his level of

expertise and his ability to formulate ideas in a creative fashion. However, it is his motivation and drive to succeed in a given task that will ultimately determine to what degree he will fully use his expertise and abilities to follow through in a creative way that bestows credit to the creative performance of the organization. Individual creativity also depends on cognitive style that influences the nature of creative realizations (Cook, 1998). Considering the above statements, we propose the following research proposition:

Proposition 1: The foundations of creativity are individual cognitive and psychological aptitudes.

Group and organizational creativity

It is helpful to describe creative organizations as complex, social, political and technical systems (Perking, 2017; Hasan and Koning, 2017). In order to identify creative outlets and implementation a set of mechanisms, the leadership in organizations must have the skills to appreciate knowledge at the individual, team and organization levels simultaneously. Organizational creativity is linked to a risky balance between complexity, compromise and choices (Craig and Kelly, 1999; West, 2002). The creative organization needs to be flexible while controlling entrepreneurial risk but provide the freedom to search for new knowledge through learning and experimentation (Kato, 2016; Xhang and Zhou, 2014; Zhou, 2003). All aspects related to stimulating creativity in groups by means of structured interventions is done according to the creative approach to problem resolution (Rickards and Moger, 2000). Group creativity depends, in part, on the individual creativity of its members. To this end, Amabile (1997) suggests that it is essential to group together individuals who have different personality traits, cognitive styles, and skill profiles. In addition to

having diverse profiles, creative groups must be guided by management staff who have clearly identified the project objective and granted the group the necessary autonomy and leeway to freely accomplish their assigned tasks (Amabile, 1997). In creative groups, it is always desirable to have a team leader who can stimulate other members through lively animation and establishing a proper framework and orientation.

Besides the group and its composition, it is important to emphasize other characteristics that contribute to the creative result. For example, the size of the group influences the interaction and collaboration between members (Lubart, 2003). In larger groups, members have difficulty expressing themselves because of problems due to personal interaction. As well, the cohesion of the group reflects directly on its creative performance. Moreover, since the creativity of members in the same group is not due solely to contact between colleagues who have diversified profiles, it is thus necessary to create a means of communication to understand each other. From this viewpoint, we conclude that the characteristics of members weigh significantly on the dynamics and sound functioning of creative groups. An environment that does not offer the proper stimulation does not lend itself to creativity in groups. In order to foster creativity, group members must be interdependent and work together as a team. Creativity within an organization can be influenced by numerous factors such as the climate at work and the level of confidence between members of the organization. According to Sternberg and Lubart (1991), the environment at work encompasses the principal levers of creativity within the company and includes the mechanisms for developing new ideas. For example, honing communication skills and having in place a method for rewarding and recognizing all creative initiatives will have a positive impact. Furthermore, besides the importance of fostering a climate favourable to creativity, we also

need a collective management approach that favours creativity as well. Besides the management style, the resources and abilities of an organization also determine the creative performance or net result. According to Amabile (1997), this notion includes all the mechanisms that favour creativity, especially in the particular domain targeted. The resources include, among others, the time required to produce a new product, the expertise required by its employees, the amount of funds invested, material resources, management systems and procedures as well as training (Meunier, 2007). In addition, the research studies of Cook (1998) suggests that creative organizations must make a genuine effort to attract, retain, and develop their highly talented creative human resources. Hence, we propose the following research propositions.

Proposition 2: The group size and the interactions within the group influence the ability to be creative.

Proposition 3: The context at work influences creativity in organizations.

METHOD AND SAMPLE

The case study method was chosen as a means to further examine the objectives in our study (Yin, 1994). To this end, we have chosen a theoretical approach rather than statistical (Miles and Huberman, 1994). Miles and Huberman suggested the choice and the number of case studies that met our sampling criteria. In order to understand the mechanisms that facilitate a creative environment, choosing a case study method appears to be the most appropriate when we examine the conditions for creativity in small cultural organizations that exist in such a constrained environment. To proceed, we conducted semi-controlled interviews

with managers and employees of these organizations, each of which lasted an average of 45 minutes, which allowed us to determine the individual, group, and organizational creative mechanisms.

Description of Case Studies

Case 1: « Acadian Historical Village » is dedicated to preserve, maintain, and promote Acadian culture and heritage ». Acadian Historical Village (The Village) is a living museum that represents the daily lives of Acadians living in New Brunswick from 1770 to 1949. Located on the Rivière-du-Nord, near the village of Caraquet in the Northeast of the Province, The Village opened its doors in June 1977. Since opening day, the organization seeks to inform and educate visitors, including residents, about the life of Acadians from the end of the 18th century to the mid- 1950s in the 20th century. The Village interprets the actual history of Acadians who lived throughout that period using artifacts in a recreated historical environment. The period lifestyle is reflected by actors in costume, living and working alongside the more than 60 structures and artifacts onsite. In addition, we can observe traditional types of work, cultural and folklore exhibitions, as well as recreated historical events. Visitors can further enjoy themselves by staying at the Château Albert, a fully functional period hotel/restaurant with 15 rooms. Apart from the amenities, The Village has a welcoming station, a conference / event room with a capacity for 200 people, a boutique, and a cafeteria.

Case 2: « Lefebvre Monument Society » (SML) was incorporated on June 2nd, 1998. The society was created by a group of Acadians who felt deeply about the importance of recognizing a new renaissance in Acadian culture that is beaming with pride. Their first objective was a success; namely, having Parks Canada designate the Lefebvre Monument as a national historical site in

1994. Fortuitously, the designation was announced during the very first Acadian World Congress (CMA) being held in the Southeast of New Brunswick.

Established for more than a quarter century, SML knew how to fine-tune its project with just the right amount of polishing and thus continue its mission, specifically, to “Promote the heritage of the Acadian renaissance and the resurgence of a rich Acadian culture”. This mission can then be divided into two general objectives; namely, at first to “Develop the full potential of the national historical site of the Lefebvre Monument” and later, to “Develop the full potential of the Lefebvre Monument Society”. Six organizations comprise the membership of SML. They are the « National Society of Acadie » (SNA), the « Société Nouveau-Brunswick Acadie Society» (SANB), the « Memramcook Village», the « cultural society of Memramcook valley », the « historical society of Memramcook valley», and the « Abbey-Landry School». Each member organization designates a person to sit on the board of directors of SML. These six members name three other representatives from the community at large to complete the 9-member board of directors.

Case 3: The Frye festival is a bilingual literary event. It is an inspiration by one of the best worlds- renowned thinkers among literary critiques, Northrop Frye, and was founded in 1999 in the Moncton area. The festival aims to encourage people to discover the pleasures of reading and writing through activities that unite the public by inviting the best-known authors and writers from the region or nationally / internationally. The non-profit organization succeeds in attracting between 15,000 and 17,000 people per year, in addition to the 10,000 students from schools in the region that participate in the school-youth program.

The festival encourages the population to discover the world of literature with the help of close to 400 authors from around the

world that have participate in the festival from the very beginning. More than 50 activities are available to the public during the year, particularly during the weeklong festival held every April. During that particular week, the organization generates more than a million dollars for the local Greater Moncton area. It also plays an important role in the community and provides it with a sense of belonging by bringing together authors, participants, volunteers, community partners, business sponsors, benefactors, and the media, to name a few.

Data collection and analysis

The data was collected by means of semi-controlled interviews, direct observations, and pertinent documentation (Yin, 2003). The majority of those interviewed were seen several times but, in such cases, they were counted as a single interview. The interviews were generally of short duration, between 30 and 45 minutes. They covered topics such as the description of a typical workday, motivation, and the types of collaboration that exist. In case #1: the four interviews cover the quasi-total of existing jobs at The Acadian Heritage Village: General Manager, Commercial Manager, administration, artistic director, and employees. In case #2: the four interviews cover all the existing positions in the company (100% of resources): management, administration, and volunteers. In case #3: the four interviews cover the entire knowledge-based society and include management, marketing, etc. ...

The data was analysed according to the principal of thematic content analysis. We grouped various segments of the interviews as a function of generic themes that appeared emergent; then allowed us to extract progressively the means by which values and associated mechanisms are selected by individuals and organizations, thus forming the very basis for creativity.

FINDINGS

The proposition 1, the foundations of creativity are individual cognitive and psychological aptitudes is validated. Most employees at the Acadian Heritage Village attend a daily briefing of about 30 minutes before the site opens during the height of tourist season. The briefing sessions allow management and employees to:

- Exchange ideas through a give and take.
- Discuss the comments, suggestions, and preoccupations of tourists/visitors to the Village to improve the product offered.

The general manager emphasizes that the employees through their morning briefings relay the needs of visitors to management. After all, the employees speak directly to visitors at the Village every day. The briefing sessions thus constitute an important forum by which to receive feedback from visitors. Management attends these briefings to solve problems but also to obtain and discuss viable solutions proposed by their employees. This approach is very gratifying for employees who see first-hand that management does indeed care about their preoccupations and that it listens to their suggestions. Therefore, the briefings are a source of motivation for management and staff. During these morning briefings, major innovations are not specifically on the agenda. The Director General, Mr. LeBreton, states the goals: “It’s the small details that can greatly improve the visitor/tourist experience”. He cites the following example:

“During one such briefing session, the employees mentioned that visitors were complaining about not having enough places where they could sit down or rest. Thus, The Village installed more benches throughout the site.”

At the Lefebvre Monument Society (SML), employees initially are recruited for their passion of Acadian culture and history. Afterwards, as noted by the General Manager Claude Boudreau, they become sources of creativity. He cites the example of a new employee who, on his first day at work, suggested changes to the confusing traffic signalization that leads to the Monument and to potential changes or modifications at the boutique located in the Monument. The employee explains that he noted such issues when he first visited the site with his parents.

Moreover, employee creativity is related directly to the interactions that they exchange with visitors. One day, the assistant general manager began an informal discussion with visitors from Louisiana. Like Acadians, many are interested in their own history and they told me that they only discovered the existence of the Monument by attending the last Acadian World Congress (CMA). As a result, we created an event dedicated to attracting tourists and heritage / historical minded travellers from Louisiana to Nova Scotia to New Brunswick. For the last two years, this activity accounts for a third of the Monument budget, proof positive that interaction between employees and visitors represents an important source of creativity. Such small details often go unnoticed in the eyes of visitors, but they allow us to improve our services.

Once the Frye Festival ends, management and employees meet to have debriefing sessions whose principal objective is to propose more audacious ideas and concepts to surprise visitors attending the next festival. In addition, certain employees are responsible for scrutinizing other similar-type festivals to unearth new ideas and better ways to improve the Frye Festival. As a result, the idea was born to create an animated web site, including social media platforms, about all the activities that occur yearlong at the Festival. For example, we can obtain information on the festival,

the literary news, and the monthly events such as reading clubs on our website. There are also contests open to the public, especially the youth, with a number of prizes and rewards given to the winners.

Regarding the proposition 2, the group size and the interactions within the group influence the ability to be creative, is confirmed. One of the competitive advantages of The Acadian Heritage Village is the authenticity offered that is seen and felt by visitors, from the period actors that recreate the lifestyle between the years of 1770 to 1949 years, to the maintenance of the various buildings. The general manager emphasizes that at the Village:

- The actors are not allowed to walk fast onsite. They must walk more slowly and quietly that reflects the pulse and rhythm of a more relaxed lifestyle that characterized the 18th century.
- Hair color dyes must be of natural colors.
- Body piercings are not allowed, and tattoos must not be visible.
- The restauration of heritage buildings must be done with manual tools only (or other types must not be seen).

Furthermore, the visitor who chooses to stay at the Château Albert period hotel will find it very difficult to charge an iPhone or a Blackberry (no electrical outlets) and it will be not an alarm clock but the sounds of a rooster that awakens him.

The willingness to integrate authenticity with the tourist experience in all activities has won the acclaim of the Society of American Travel Writers and in 1996, the Village was the recipient of the Phoenix Award. This expertise allows The Village to innovate the product and services it offers to visitors. The Village intends to offer special tourist packages that will consist of training programs for visitors who wish to learn certain trades or traditional labour such as learning the blacksmith trade. The visitors could stay at the Château Albert. Such packages would be

offered during autumn, a quiet time for The Village, as a means of prolonging the tourist season.

Regarding SML, the choice of a small and flexible structure helps it to generate innovative proposals regarding activities. For example, an online web boutique is about to be launched, new programming for summer and winter specials will be introduced and thus help the SML organization stay active and financially afloat all year, and summer camps will allow young minds to learn Acadian history thus preparing them for future leadership roles. In fact, management has noticed with apprehension that the average age of visitors to SML is 50 years and over. Younger people do not seem interested in the activities of SML, notwithstanding that they were designed specifically to appeal to upcoming generations. SML also planned other activities such as a semi-marathon or a guided tour of cemeteries to discover the monuments of illustrious Acadian ancestors. These activities never saw the light of day because of a lack of collaboration by employees and the local community. The general manager states: “The local community that actively participates in our activities is regularly invited to attend our focus groups and offer its suggestions and critiques. I can state unequivocally that they are not silent partners and they tell it like it is when things go wrong. All the better since we learn from our mistakes.”

At the Frye Festival, the flexible organizational structure is responsible for most of the group creativity. The general manager confirms that she must find new creative strategies to succeed in planning, organizing, coordinating, and evaluating the success of the festival, which, in the context of financing, has become more and more rare. As she says, “We go far with what we have”, Danielle LeBlanc, General Manager (GM).

For example, the organizational structure is horizontal with committees and subcommittees that all have mandates and

specific responsibilities. Decision-making is decentralized thus allowing members and chairs of each committee or subcommittee to make functional decisions according to their mandate. Each committee or subcommittee must be creative in order to successfully be innovative, be it in programming, activities, or even in company operations.

Finally, the proposition 3 who pointed out that the context at work influences creativity in organizations is also confirmed. The Village maintains a positive work environment during both the seasonal period and the winter months. With less than a dozen workers, the number of permanent employees is quite small. Consequently, management encourages not only the sharing of ideas but also the sharing responsibilities in order to maximize the skills and abilities of the entire team. As is the case with the Village, SML believes that a team/group management approach creates an environment that stimulates and rewards innovation. By offering the best salaries, retaining personnel is greatly facilitated from season to season. The ability to increase the retention of seasonal employees allows management to invest in the professional training and development of their employees. Beyond learning the basics of customer service, some Village actors must learn to how to work in the traditional trades such as a blacksmith or sheet metal worker that they themselves must demonstrate in front of visitors using period tools, applying dye to wool, and making bread in outdoor ovens. These trades are not learned by simply viewing a video or attending a seminar course. Individual training sessions are required to allow employees to master their respective techniques. Training can last from two weeks to a month under the guidance of trainers who live in the community and practice and have mastered the traditional trades.

Danielle LeBlanc, GM of the Frye Festival, points to the problematic of financing such an organization. She prepares 25

requests for financing per year in order to obtain a major part of the funds necessary to run the festival. As for the remaining amount, creative minds are required and that is exactly what management uses to succeed. For example, every January the management team organizes a large financing campaign in the community. The GM mentions that you must not feel embarrassed about soliciting funds and donations from the public because the festival could not operate without such aide. Because of these increased efforts focused on campaign financing and subsidies, the organization has a considerable rate of retention of 80% to 85% of its sponsors from year to year.

Furthermore, the GM explains that they must maximise what little resources are available. She explains that one of the creative methods undertaken by the organization to be fiscally responsible was to create partnerships with other organizations in the cultural field. For example, there is a partnership with the Acadian International Francophone Film Festival « Festival international du cinéma francophone en Acadie » (FICFA) to share human resources such as the personnel required for the first week of the festival. Other partnerships also exist with literary festivals in Quebec and Ontario that take place within a 2-week interval with the Frye Festival. In this case, they might be able to share travelling expenses when both organizations collaborate and together invite national and international authors. The GM added that this was the way the organization operated a few years ago when they invited renowned international authors to the Moncton Festival, something they normally could not have afforded on their own. Festivals such as the FICFA and the International Writer's Festival of Ottawa as well as the Metropolis Bleu from Montreal are excellent partners for the Frye Festival.

CONCLUSIONS

In this paper, we presented various types of creativity and proceeded to analyse each one as it applied to organizations: specifically, as individual, group, and organizational creativity. Thus, to grow and stay competitive, we must innovate and develop a strategy of differentiation. This requires one to exploit his organizational creativity. Creativity thus constitutes a managerial tool that requires the implementation of new tools to manage and direct them. However, our results have shown that the management of creative processes in VSB revolves around three elements we refer to as triptych: employees, clients, and local communities. Employee interactions between

each other and with management, clients in close proximity having informal interactions with employees, and local communities involved because of their feelings of belonging are all essential elements that, if sufficiently driven, lead to creativity. Moreover, these results show that locating these organizations in a minority setting further increases the pride of the local community and encourages them to participate in the creative process, which differs from other organizations whose involvement is primarily for financial or other types of compensation. Nevertheless, despite our work, our research has an obvious limitation in that it relies only on three case studies. The research would benefit if the sample size was enlarged to encompass other VSB in a minority milieu elsewhere in Canada.

Implications for theory

The results obtained in these three cases show that when very small cultural organizations are faced with problems of financing or innovation, creativity is seen as essential to their survival. In so

doing, it highlights a creativity triptych comprised of employees, clients, and the local community.

Creativity attributed to employees

In order to encourage individual creativity, companies develop a certain number of tools such as idea management or brainstorming (Zhou and George, 2001). However, with individuals, there may be sociocultural obstacles that are rooted in social resistance, education, culture, traditions and conformity. In general, our education shapes our way of thinking, from judging to perception. We tend to rely on previously used tried and true solutions when confronted with a problem. Now, creativity requires one to be audacious, energetic, and have a strong desire to get things done. Creativity does not solely depend on individual abilities but essentially on managers who can create an environment in which employees feel at ease to propose ideas. In the case of VSB, creativity manifests itself differently than in large companies where creativity depends on financial compensation. In VSB, when financing problems present themselves, employee creativity stems from the organization's small size (Zhou et al., 2009; West, 2002), its flexibility, and the informal relationships forged between employees and management. As all three cases showed, employees in these organizations are motivated by the cause itself that they must face together. We observe in these organizations a creative process that first includes employees who are advocates of such causes, then a shared sense of confidence bestowed by management, and finally individual responsibility (Perry-Smith and Mannucci, 2017).

Creativity attributed to clients

In our times, the client is considered as one of the players in organizational creativity. Consequently, certain researchers are

asking themselves precisely what role clients can play in organizational collective creativity (Drucker, 1985; Gibson, 1999). A review of literature shows numerous forms of collaboration between clients and organizations. We can therefore identify co-innovation when creative clients are involved in design activities (Ford, 2000), co-designer when the client is involved in the creation and personalization of a public tender (Scott et al., 2000), and co-promotion to designate the production of campaign publicity with audio-visual material destined for consumers (Kao, 1998). However, most collaborations are the result of deliberate intent by organizations who are officially associated with the client in the creative process. These types of collaborations usually result in the organization providing a reward or some form of acknowledgment of the client. In the case of VSB, there are no intentional cooperative manoeuvres between organization and clients (Perking, 2017). The creative process is born out of proximity between employees and the client. It can also be the result of informal contacts between management and the client or a spontaneous initiative by the client towards the organization or its employees (Berg, 2016). Because the initiative is informal, the personnel must be well trained and ready to react accordingly by taking comments, suggestions, or complaints and turning them into constructive creative results. In addition, when the organization is a cultural entity, the majority of clients are passionately involved in promoting and ensuring the continuity of these dedicated endeavours.

Creativity attributed to local communities

The concept of « community work group » (Goury and Spalanzani, 2005) is increasingly studied in literature. It can be defined as a group of players within the same organization who have a common history, who interact frequently, share knowledge and encounter

similar problems. In practice, the community relies on a synergy in the structure of the activities, and the relationships between players that was built over time and conflictual in nature. Moreover, it identifies with a mutual commitment by its members, by a common project, by the usage of the same tools, symbols, resources, and the same professional practices in a situational context referred to as “situatedness” (Craig and Kelly, 1999; Hasan and Koning, 2017) These community work groups form the basis for creativity in certain companies. However, they require a convergence with the companies or their managers and involves the implementation of the means and the resources that VSB do not possess. This explains why VSB tend to put into place a local community support system in which they live. In the case of the Frye Festival, management aligns itself with the local community for support by using focus groups to determine what is going well and especially what needs improvement. The local community involves itself for the simple reason that it feels a strong sense of belonging to the cultural values shared and promoted by this organization. It plays the role of guardian and protector of the cultural work by visiting the site and by involving itself in all the activities that concern creativity and improvement (Ahuja, 2000; Jansen and West, 2004). This particularity is present with cultural organizations when they are located in a minority area such as the cases presented in this article located in New Brunswick.

Implications for practitioners

A company should carefully plan the kickoff of the innovation project. If resources are scarce, spending enough time in the evening for informal talks, which will affect group cohesiveness positively, should be given. To help less experienced team members, a system can be implemented that identifies cultural wise experts in the company who can function as a mentor. Furthermore, the

team composition should at least mix team members with a high and a low innovation experience. This dimension is also the only one where we suggest a dominating tendency of team members. Moreover, team leaders with teams from mixed cultural experiences have to be sensitive to different needs in delegation and task explanations. Here the team leader has to identify team members in conflicting situations and agree with the local supervisor upon decision spectrum and field of responsibilities of the team member.

Limitations and further research

This paper is based on a qualitative research within a real-life context of small cultural organizations. As such, it is one of the first papers of its kind based on small cultural organizations. Hence, our results have a high relevance for firms of different categories. So far, our study is lacking quantification and thus empirical testing, although the large number of interviews offers some possibilities that have to be taken in further steps. Moreover, diversity in values might differ in the context of different countries. Thus, our research could be replicated in organizations who are located in non-Western countries. Further insight might be feasible through longitudinal studies.

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When Does Product Diversity Improve Performance? The Moderating Role of Customer Scope Strategy

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Received Nov. 28, 2018, Revised Dec. 9, 2018, Accepted Dec. 29, 2018

ABSTRACT

This paper investigates the interaction effect of customer scope strategy and product diversification strategy on firm performance. The result provides a support for a positive moderating effect for product diversity on the relationship between customer scope and firm performance in 2005, while pursuing only product diversity has a negative but insignificant influence on performance. This result indicates that the combination strategy, which refers to implementing the both strategies (broadening customer scope and product diversity), improves firm performance under certain conditions. In the main body of the discussion, this paper suggests some theoretical implications based on the empirical results.

Keywords: product diversity, within-industry diversification, product scope, customer scope, combination strategy, transaction cost, coordination cost, automotive industry

INTRODUCTION

Previous studies on strategic management have expounded the antecedents which affect positively firm performance. Studies on interorganizational relationships have suggested that the most important sources of innovation are resulted from customers and having a broader customer scope positively affects firm performance, especially within the Japanese automotive industry (Clark & Fujimoto, 1991; Dyer & Chu, 2011; Dyer & Nobeoka, 2000; Konno, 2017; Martin, Mitchell, & Swaminathan, 1995; Nobeoka et al., 2002; Sako & Helper, 1998; von Hippel, 1988). Those studies have basically assumed that interorganizational learning through interactions with multiple customers is critical for achieving competitive advantage and outstanding performance. Prior research on interorganizational relationships indicates a positive relationship between customer scope and firm performance; yet, a study examining the relationship in different fiscal years has founded an inconsistent result with the previous research (Min & Song, 2017).

Meanwhile, scholars on diversification strategy have empirically demonstrated the impact of within-industry diversification or intra-industry diversification on firm performance (Hashai, 2015; Min & Mitsunashi, 2016; Stern & Henderson, 2004; Tanriverdi & Lee, 2008; Zahavi & Lavie, 2013). These studies have examined if product diversification within a particular market or industry enhances firm performance, but the findings on the linkage between product diversity and performance have remained somewhat inconsistent.

This study suggests that customer scope can be a critical factor to moderate the relationship between product diversification and firm performance positively; however, in the existing literature, how the interaction of two strategies affects performance remains

unclear since there has been no examination of the outcomes of simultaneously pursuing customer scope and product diversity.

To examine the interaction effect of customer and product diversification strategy on performance, the remainder of this paper is arranged as follows. Following this introduction, the next section reviews the previous literature on the effects of customer scope and product diversity on firm performance. After briefly describing the research method including the data, variables, and the model, the study presents the empirical results and concludes with discussing some theoretical implications.

LITERATURE REIVEW

Product diversity on performance: Within-industry diversification

After the pioneering research on diversification strategy by Ansoff (1957) and Chandler (1962), over the past several decades, strategic management scholars have empirically examined whether the diversification across industries has a positive effect on firm performance at the corporate level (Markides, 1995; Palepu, 1985; Palich, 2000; Rumelt, 1982).

However, firms diversify not only across industries, but also diversify within-industry. In a lot of cases, small to medium-sized high technology firms are likely to pursue product diversification strategy within their industry to strengthen the engine of growth. This kind of diversification is described by terms such as intra-industry diversification or within-industry diversification (Hashai, 2015; Min & Mitsuhashi, 2016; Stern & Henderson, 2004; Tanriverdi & Lee, 2008; Zahavi & Lavie, 2013). In fact, most of the suppliers, which dealt with in Nobeoka et al. (2002) and Min & Song (2017), remained focused on the automotive industry; at the same time, some of those might had diversified product scope (product categories) within the industry.

Little was known about the link between product diversity within-industry and firm performance, but recently several studies on performance consequences of the within-industry product diversification have appeared in the literature. The findings on the effect of within-industry diversification on firm performance is somewhat mixed and inconsistent. This mixed evidence might be caused by methodological differences including variables and measures or some latent contingencies.

One study, analyzing the relationship with the data of Canadian general insurance industry, found that there is no relationship between within-industry diversification and profit performance measured by ROA (Li & Greenwood, 2004). An analysis that reports mixed effect including a negative effect also exists. Tanriverdi & Lee (2008) analyzed the data of 884 firms in the software industry and concluded that implementing only market-related diversification or only platform-related diversification reduces performance (sales growth), while implementing the two strategies in combination has a positive effect on performance.

In contrast, several studies reported positive relationships between within-industry diversification and firm performance. For example, Nobeoka & Cusumano (1997) find that product diversity has a positive effect on sales growth that because technology sharing enhance economies of scope. One study reports that product diversity as well as introduction rate of new products have positive relationships with firm survival by analyzing the U.S. personal computer industry, though the impact of product diversification on survival is weaker when environments are unstable (Stern & Henderson, 2004). Meanwhile, Zahavi & Lavie (2013) examines that U.S. software firms' product diversity initially has a negative effect on performance at a low level because of negative transfer effects but then improve performance to

enlarge economies of scope. In this vein, they contend that the degree of within-industry diversification has a U-shaped relationship with sale growth. Further, recent research on small and medium-sized high technology firms shows that there is a S-shaped relationship between within-industry diversification and ROS (Hashai, 2015). Hashai (2015) points out that a higher level of within-industry diversification hampers firm performance, resulting from the influence of adjustment costs and coordination costs.

Customer scope on performance

Customers are a valuable source of innovation because suppliers acquire external knowledge and information for new product development, thus helping them creating product innovation(von Hippel, 1977; von Hippel, 1978; von Hippel, 1988). von Hippel (1988) investigated the sources of the innovation in the semiconductor industry, founding the primary sources of innovative ideas come from firms' customers. This means that close relationships with customers help suppliers acquire knowledge that might be valuable to create new value for them. Thus, we can assume that suppliers with multiple customers are more likely to develop innovative new products that meet the needs of customers, thus resulting in outstanding performance.

In the Japanese automobile industry, automotive suppliers acquired the most important sources of technical knowledge for new product developments through supplier associations that Japanese automakers established(Nishiguchi, 1994). The Japanese supplier associations have a critical role to play in sharing technologies and ideas between the suppliers and the assemblers (Clark & Fujimoto, 1991; Cusumano & Takeishi, 1991; Dyer & Chu, 2011; Dyer & Nobeoka, 2000; Konno, 2017; Sako & Helper, 1998). More importantly, Martin, Mitchell, &

Swaminathan (1995) indicate that a supplier with broader customers might achieve a greater profits because it could develop negotiation skills from experiences in transactions with multiple customers.

Based upon the above arguments, pointing out that leading Japanese automotive suppliers have actually a broader range of customers, Nobeoka, Dyer, & Madhok (2002) examine the effect of customer scope strategy on firm performance of the suppliers. In the research by Nobeoka et al. (2002), customer scope is measured by the number of automakers to whom components were supplied and the Herfindahl index (the concentration ratio of automakers) with the data from Japanese Automotive Parts Industry. Their results confirm that suppliers with a broader customer scope achieve superior performance. This is because interactions with multiple customers make suppliers take advantages of economies of scope through increases of learning opportunities and acquire relation-specific knowledge, thus receiving the benefit of reduction in transaction costs (Dyer, 1997; Nishiguchi, 1994; Nobeoka et al., 2002).

Recently, pointing out the methodological limitation of Nobeoka et al. (2002) in that the analysis is only based on a single-year data for 1995, Min & Song (2017) examined the impact of customer scope on performance at different fiscal years. In order to enhance the theoretical reliability of the research result, they composed multiple-year dataset by gathering additional data from Japanese Automotive Parts Industry for 1985 (the fiscal year ending in 1984) and 2005 (the fiscal year ending in 2004) in addition to the data for 1995(the fiscal year ending in 1994). The results for 1985 and 1995 are basically consistent with the resultant of Nobeoka et al. (2002); however, no significant relationship between customer scope and performance is observed for 2005. In short, the empirical research reviewed above show that while there was a support for the

relationship between customer scope and firm performance in 1984 and 1994, the relationship could not be found in the 21st century. In order to grasp the insignificant result for 2005, Min & Song (2017) noted that no one argues relation-specific skill (Asanuma, 1989) can be re-deployed to other customers with no additional adjustment costs, thus proposed a plausible hypothesis that the level of costs to coordinate and redeploy went on increasing as the number of customers grew up. In the previous literature, though the most studies stand on the buyer side, strategic management scholars pointed out that coordination costs may increase with a rise in the number of transactional firms at the same time (i.e., Bakos & Brynjolfsson, 1993).

In the context of costs, Nobeoka et al. (2002) also pointed out that suppliers having multiple customers can take advantage of relation-specific knowledge which leads to cost reduction, even though the optimum degree of customer scope to maximize is still a subject to debate. Generally, it is considered that the relation-specific knowledge enables suppliers to conduct transactions more efficiently.

On this point, this study assumes that not only customer diversity, but also product diversity within-industry can positively influence the firm performance by enlarging the effects of economies of scope. Therefore, it is worthwhile to consider the way in which product diversity affects the relationship between customer scope strategy and firm performance.

In combination with the literature above, this paper assumes that simultaneously pursuing customer-product diversification strategies may lead to enhance firm performance by enlarging economies of scope resulting from complementary effects; of course, pursuing two strategies simultaneously might inhibit the firm performance by raising costs such as coordination or adjustment. Surprisingly, there is no empirical research to demonstrate the

outcomes of pursuing both strategies simultaneously with the exception of Konno (2017). Thus, this paper examines the relationship following a research question: Does broadening customer diversity or product diversity enhance performance? Does pursuing both customer and product diversity enhance performance?

RESEARCH METHODS

Sample and Data Collection

This paper collects the data from Japanese Automotive Parts Industry (Japanese Automotive Parts Industries Association [JAPIA], 2005), which covers the transactional and financial information of the Japanese automotive component suppliers. This research consists of the data set based on automotive component suppliers that have more than 50% of the total sales to automotive assemblers. We exclude automotive component suppliers with missing information regarding products, sales, profits, or shipment ratios (customer proportions - aggregated percent sales to automotive assemblers) from the data. The final numbers of suppliers in the sample is 81. Data on products, customer proportions and the numbers of employees are based on the annual data for the fiscal year ending in 2004. The annual data on performance (i.e., sales and profits) is based on the fiscal year ending in 2004 and 2005.

Operational Measure

Dependent variable

In this research, suppliers' profit-sales ratios are the firm performance as the dependent variable, following the method of

existing research (Nobeoka et al., 2002). In general, profit-sales ratio is calculated by dividing the operating income by total sales. To reduce concerns about the problem of reverse causality, this paper includes a time lag between the dependent variable and independent variables. Thus, profit-sales ratio in this paper is calculated as the average value during a two-year period (t_0+t_1).

Independent variable

Product diversity is measured by the natural logarithm of the number of product categories in each year (Hashai, 2015). The data book, Japanese Automotive Parts Industry, classifies products that Japanese automotive suppliers produce into 148 categories and provides the information of what products each supplier deal with. Thus, this study uses those numbers to measure product scope for each supplier in each year.

Customer scope is measured by the number of automotive customers. This is a simple count of customers, to whom a supplier provides its own components among seven automotive assembler groups. This study adopts the customer classification by Nobeoka et al. (2002) that classified Japanese automotive assemblers into the following 7 groups: the Toyota group (Toyota, Toyota Auto Body, Daihatsu, Hino, and Kanto Auto Works), the Nissan group (Nissan, Nissan Shatai, Nissan Diesel Motor, Fuji Heavy Industries, and Aichi Machine Industry), Mitsubishi, Honda, Mazda, Suzuki, and Isuzu.

Control variable

Following prior research, this study includes control variables to consider other factors that might affect firm performance (Lieberman & Demeester, 1999; Nobeoka et al., 2002). First, as some suppliers sell components to other automobile suppliers or to non-automobile customers, the model includes control variables for

related customer ratio, a ratio of supplier's sales to other automobile suppliers divided by total sales, and for unrelated customer ratio, which is a ratio of a supplier's sales to non-automotive firms divided by total sales. Also, this paper considers customer-proportions with the ratio of a supplier's sales volume to each customer divided by total sales to the seven assemblers, scale effects with the natural logarithm of the total sales of each supplier, and competitiveness of each supplier with natural logarithm of the sales per employee and sales growth in the past four years.

ANALYSIS AND RESULTS

To investigate the effects of broadening customer scope and product diversity on firm performance, this study conducted multiple regression analyses. Table 1 summarizes descriptive statistics and correlations across the variables. The means, standard deviations, correlations among the variables are described. The average of profit-sales ratio in which the sampled firms were involved is 0.042, which means 4.2%, with a standard deviation of 0.026. The mean value of customer scope is 2.840 and product diversity is 1.171.

Table 2 shows the results of the regression analyses. As explained previously, this study has used profit-sales ratios as the dependent variable of firm performance. Since the variance inflation factors (VIF) of all variables observed in the regression analyses were below 10, there is no evidence of multicollinearity to be a problem.

Model 1 is the analysis to check the effects of the control variables. These control variables account for 20.8% of the variation in firm performance. For the ratio of Mitsubishi ($\beta = -0.444$, $p < 0.05$), the ratio of Suzuki ($\beta = -0.258$, $p < 0.1$), sales

growth ($\beta = 0.183$, $p < 0.05$), the regression coefficients were statistically significant. The ratios of Mitsubishi and Suzuki have negative effects on performance, while sales growth has a positive relationship with performance.

Model 2 and Model 3 are the direct effects of customer scope and product diversity on performance. The results show that customer scope has a positive and significant effect on performance ($\beta = 0.218$, $p < 0.1$), while product diversity has a negative but insignificant effect on performance respectively ($\beta = -0.036$, $p > 0.1$).

Model 4 and 5 include the interaction term of customer scope and product diversity on performance. The result of Model 5 shows significant positive relationship between the interaction term and the performance ($\beta = 0.268$, $p < 0.05$). Furthermore, the effect of product diversity on performance changed from a negative sign to a positive sign.

DISCUSSION AND CONCLUSIONS

The effects of pursuing customer-product diversity simultaneously on firm performance is a topic that has not been examined in the field of strategic management. To date, the literature has examined the effect of each product diversity or customer scope on performance separately. This paper has examined in detail the issue of whether pursuing two strategies (customer scope strategy and product diversification strategy) simultaneously affect firm performance or not with a sample of Japanese automotive suppliers.

Table 1. Descriptive Statistics and Correlations Matrix

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Profit-Sales Ratio	0.042	0.026	1													
2 Customer Scope	2.840	1.699	.098	1												
3 Product Diversity (Log)	1.171	0.790	-.004	.125	1											
4 Toyota	0.290	0.381	.307**	.083	.052	1										
5 Nissan	0.248	0.352	-.094	.045	-.032	-.396**	1									
6 Mitsubishi	0.085	0.208	-.383**	.032	-.050	-.177	-.144	1								
7 Honda	0.202	0.336	.027	-.083	.165	-.356**	-.270*	-.174	1							
8 Mazda	0.083	0.240	.058	-.158	-.162	-.227*	-.190	-.060	-.151	1						
9 Suzuki	0.053	0.154	-.196	.076	-.007	-.075	-.140	-.099	-.072	-.091	1					
10 Isuzu	0.039	0.153	.017	-.002	-.090	-.126	-.087	-.009	-.144	-.063	-.057	1				
11 Sales (Log)	10.213	1.347	.100	.351**	.590**	.054	.035	-.118	.220*	-.072	-.234*	-.190	1			
12 Sales/Employee (Log)	3.734	0.478	-.013	-.055	.170	-.109	.104	.006	.222*	-.059	-.258*	-.112	.526**	1		
13 Sales Growth	0.213	0.257	.253*	-.114	.090	.050	.157	-.099	-.119	.023	-.187	.060	.213	-.044	1	
14 Related Customer Scope	0.057	0.084	-.004	-.380**	-.094	.045	.102	-.136	-.109	.125	-.185	.063	-.147	-.018	.033	1
15 Unrelated Customer Scope	0.018	0.034	-.015	-.043	-.110	.033	-.139	.310**	-.124	.056	.117	-.116	-.189	-.244*	.061	-.063

Note: **p < 0.01; *p < 0.05. n = 81

Table 2. Regression Results (dependent variable: profit-sales ratio)

Independent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value
Toyota	0.142	0.53	0.186	0.70	0.140	0.52	0.188	0.70	0.294	1.12
Nissan	-0.146	-0.59	-0.122	-0.50	-0.149	-0.59	-0.120	-0.48	-0.007	-0.03
Mitsubishi	-0.444 **	-2.46	-0.424 **	-2.38	-0.443 **	-2.44	-0.424 **	-2.36	-0.380 **	-2.17
Honda	-0.027	-0.11	0.052	0.21	-0.027	-0.11	0.054	0.22	0.189	0.77
Mazda	0.010	0.05	0.058	0.31	0.004	0.02	0.062	0.33	0.105	0.57
Suzuki	-0.258 *	-1.76	-0.243 *	-1.68	-0.254 *	-1.72	-0.245 *	-1.68	-0.202	-1.42
Sales (Log)	-0.055	-0.43	-0.186	-1.24	-0.029	-0.18	-0.203	-1.07	-0.363 *	-1.85
Sales/Employee (Log)	0.020	0.16	0.096	0.73	0.012	0.09	0.102	0.74	0.220	1.55
Sales Growth	0.183 *	1.68	0.244 **	2.15	0.182	1.65	0.246 **	2.13	0.269 **	2.41
Related Customer Ratio	-0.115	-1.08	-0.048	-0.43	-0.113	-1.05	-0.048	-0.42	-0.051	-0.46
Unrelated Customer Ratio	0.100	0.89	0.105	0.95	0.098	0.87	0.106	0.95	0.121	1.12
Customer Scope			0.218 *	1.70			0.223 *	1.67	0.263 **	2.03
Product Diversity (Log)					-0.036	-0.28	0.020	0.15	0.006	0.04
Customer Scope X Product Diversity (Log)									0.268 **	2.41
R-Squared	0.317		0.345		0.318		0.345		0.398	
Adjusted R-Squared	0.208		0.230		0.198		0.218		0.271	
F-value	2.92 ***		2.99 ***		2.64 ***		2.72 ***		3.12 ***	

Note: n=81. Standardized coefficients are shown.
 ***p < 0.01; **p < 0.05; *p < 0.10.

The result shows that customer scope has a statistically significant positive effect on performance, while product diversity has a negative effect on performance though it is not statistically significant; However, the interaction term of customer scope and product diversity has a statistically significant positive effect of performance.

This paper has made two main contributions to the existing literature. First, regarding the inconsistent results among the literature (Min & Song, 2017; Nobeoka et al., 2002), it has been empirically examined that product diversification strengthens the effect of customer scope strategy on performance. The combination strategy of pursuing both customer diversity and product diversity may help increase the effect of economies of scope under certain specified conditions. Second, in regard to the conflicting arguments that prior studies on within-industry diversification have also shown (Hashai, 2015; Li & Greenwood, 2004; Stern & Henderson, 2004; Tanriverdi & Lee, 2008; Zahavi & Lavie, 2013), the result of this paper provides a new perspective that pursuing both two strategies at the same time could produce complementary effects to maximize economies of scope under a certain condition. Briefly, this paper provides a clue to grasp the inconsistent results in the literature by shedding light on the interaction effect of simultaneously pursuing customer-product diversification strategies.

To make the results more robust, this study also conducted a regression analysis using the data for 1995 (for details, see Appendix 1). Compared to the result in 2005, the analysis in 1995 shows that customer scope is significantly correlated with performance (profit-sales ratio), while the effect of product diversity and the interaction term on performance does not exist. These results may be better explained by the contingent perspectives. A major difference is that the average profit-sales

ratio of assemblers is lower than suppliers in 1995, but the average profit-sales ratio of assemblers is higher than suppliers in 2005. This difference indicates the comparative performance between suppliers and assemblers or customers might affect the effect of diversification strategies.

Like all studies, this research has limitations. First, some issues nonetheless remain. This paper could not explain why the impact of product diversity on performance is not significant. Also, since this paper did not uncover the certain conditions, further study should investigate the relationship including these variables so to figure out the conditions to make the combination strategy effective in maximizing economies of scope. In order to explain these issue, future research is required to examine time-series analyses so that we could better understand the dynamic interaction between product diversity and firm performance. Second, since this research uses the number of product categories for measuring product diversity, further work should be carried out to use the other indicators such as the Herfindahl-Hirschman index and entropy measures (Hashai, 2015; Miller, 2006; Park & Jang, 2013; Suzuki & Kodama, 2004). As for the dependent variable, while some of previous studies uses ROA, EVA, Tobin's q or sales growth to measure firm performance(Chen, Yang, & Lin, 2013; Miller, 2006; Montgomery & Wernerfelt, 1988), this research adopts profit-sales ratio from limitations on the data. Also, considering cooperative performance might make analysis results more robust like Wu, Chang, & Weng (2009). We might obtain different results of the effect of product diversity on firm performance with from this paper if one analyzes the relationship using the other variables.

ACKNOWLEDGEMENTS

This work was supported by Japan Society for the Promotion of Science (JSPS) KAKENHI Grant Numbers 18H05694 (Grant-in-Aid for Research Activity Start-up).

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Appendix 1. Regression Results in 1995 (dependent variable: profit-sales ratio)

Independent variable	Model A1		Model A2		Model A3		Model A4		Model A5	
	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value
Toyota	0.327	1.18	0.378	1.49	0.261	0.89	0.340	1.26	0.415	1.48
Nissan	0.443 *	1.74	0.465 *	1.99	0.394	1.48	0.437 *	1.79	0.470 *	1.91
Mitsubishi	0.042	0.23	-0.007	-0.04	0.028	0.15	-0.015	-0.09	0.004	0.02
Honda	0.423 *	1.72	0.450 *	2.00	0.377	1.48	0.424 *	1.81	0.453 *	1.92
Mazda	0.235	1.62	0.151	1.12	0.196	1.26	0.130	0.90	0.158	1.07
Suzuki	0.174	1.05	0.128	0.84	0.171	1.02	0.127	0.83	0.125	0.81
Sales (Log)	-0.189	-1.23	-0.350 **	-2.37	-0.128	-0.72	-0.314 *	-1.84	-0.346 *	-1.99
Sales/Employee (Log)	0.200	1.53	0.303 **	2.46	0.177	1.31	0.289 **	2.25	0.293 **	2.28
Sales Growth	0.330 **	2.40	0.296 **	2.35	0.319 *	2.30	0.290 **	2.28	0.279 **	2.18
Related Customer Ratio	-0.101	-0.77	-0.012	-0.10	-0.111	-0.84	-0.019	-0.15	0.005	0.04
Unrelated Customer Ratio	-0.169	-1.37	-0.092	-0.80	-0.156	-1.24	-0.085	-0.73	-0.106	-0.89
Customer Scope			0.428 ***	3.59			0.423 ***	3.50	0.443 ***	3.62
Product Diversity (Log)					-0.104	-0.70	-0.058	-0.43	0.007	0.04
Customer Scope X Product Diversity (Log)									-0.121	-0.99
R-Squared	0.222		0.359		0.228		0.361		0.372	
Adjusted R-Squared	0.082		0.231		0.074		0.221		0.220	
F-value	1.58		2.80 ***		0.07		2.57 ***		2.45 ***	

Note: n=81. Standardized coefficients are shown.
 ***p < 0.01; **p < 0.05; *p < 0.10.

A Study on the Effect of Quality Management Activities on Productivity

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Received Aug. 23, 2018, Revised Dec. 17, 2018, Accepted Dec. 29, 2018

ABSTRACT

Companies around the world are competing to survive in the future to secure competitive advantage in the future manufacturing industry in the face of uncertainty such as the global economic crisis and the fourth industrial revolution. Leading manufacturing companies are creating new wealth by transforming manufacturing through innovations in combination with services and smart factories. This change in the business model can bring new growth opportunities through business model innovation in the hardware-oriented domestic manufacturing sector. Therefore, it is necessary for Korean companies to overcome the global economic crisis and create opportunities to preoccupy new markets and to develop strategies for the Korean economy. The government is continuously striving to support the preemptive and effective

response to environmental changes at home and abroad. The 'Fourth Quality Management Basic Plan' that we have established recently sets up a quality goal that satisfies our customers through corporate management, public organizations, and organizations through quality management and plans various tasks to establish a strategy for achieving them. In other words, the four key tasks of 'Building a Smart Quality Management System,' 'Expanding the Basis for Global Quality Trends,' 'Enhancing the Quality Innovation Capacity of Manufacturing SMEs,' and 'Enhancing the Quality Management Infrastructure'. The government has enacted a law to establish and enforce comprehensive policies on quality management every three years in order to support the efficient management of quality management. This study is to investigate the effect of quality management activities on productivity. In order to achieve this goal, the following detailed study agenda were established. First, after establishing the theoretical framework through previous research, the effect of the quality management activities of enterprises on the management performance is studied. Second, after establishing the theoretical framework through previous studies, we study the effect of the quality management activities of the enterprises on productivity. This study synthesizes the relationship between quality management activities and productivity.

Keywords: Quality management, quality management activities, business performance, productivity

INTRODUCTION

Companies around the world are competing to survive in the future to secure competitive advantage in the future manufacturing industry in the face of uncertainty such as the

global economic crisis and the fourth industrial revolution. Leading manufacturing companies are creating new wealth by transforming manufacturing through innovations in combination with services and smart factories. This change in the business model can bring new growth opportunities through business model innovation in the hardware-oriented domestic manufacturing sector. Therefore, it is necessary for Korean companies to overcome the global economic crisis and create opportunities to preoccupy new markets and to develop strategies for the Korean economy (Cho, 2017; Li et al., 2003; Anderson et al., 1994).

The government is continuously striving to support the preemptive and effective response to environmental changes at home and abroad. The Fourth Quality Management Basic Plan that we have established recently sets up a quality goal that satisfies our customers through corporate management, public organizations, and organizations through quality management and plans various tasks to establish a strategy for achieving them. In other words, the four key tasks of 'Building a Smart Quality Management System,' 'Expanding the Basis for Global Quality Trends,' 'Enhancing the Quality Innovation Capacity of Manufacturing SMEs,' and 'Enhancing the Quality Management Infrastructure'. The government has enacted a law to establish and enforce comprehensive policies on quality management every three years in order to support the efficient management of quality management (Atta, 2012; Dean and Bowen, 1994; Paek & Lee, 2018; Pradhan, 2017).

The purpose of this study is to investigate the effect of quality management activities on productivity. In order to achieve these objectives, the following detailed targets were established. First, after establishing the theoretical framework through previous research, the effect of the quality management activities of enterprises on the management performance is studied. Second,

after establishing the theoretical framework through previous studies, we study the effect of the quality management activities of the enterprises on productivity.

THEORETICAL BACKGROUND

National Quality Policy

In Korea, after the Industrial Standardization Act was enacted in 1961, quality control policies have been implemented under government initiatives such as introduction of KS certification system, establishment of quality control law, and establishment of Industrial Promotion Agency. In the 1990s, KS certification was replaced with a private self-regulatory quality management system with the transfer of civil works. Recently, there are more than 54,000 quality clubs in 9,200 business sites in Korea. Thanks to this, some industries such as electronics, automobiles, shipbuilding and steel are preoccupying the highest quality. Some of the leading companies have become the benchmarking target for foreign companies by establishing the world class quality system. The government is also striving to improve the quality policy in keeping with the changing quality activities. The domestic quality policy direction and major promotion contents.

The government's quality management policy legislation has been based on the "Quality Management and Industrial Safety Management Act". However, in order to improve the quality and production efficiency of products and services through the linkage of industry standards and quality management by stipulating in "Industrial Standardization Law", the quality management related clause stipulated in the "Quality Management and Industrial Product Safety Management Act" Standardization Act "and announced on January 27, 2016.

In addition, the period for establishing comprehensive measures for quality management has been shortened from five years to three years, so that it can be adapted to the rapidly changing industrial environment. In addition, the quality management promotion system composed of the central promotion headquarters of quality management and the quality management city / provincial promotion headquarters is simplified to the quality management promotion headquarters. The "Quality Management and Industrial Safety Management Act" was abolished on January 28, 2017, and amended to Article 31 (2) (Comprehensive Measures for Quality Management) of the "Industrial Standardization Act" in order to improve and supplement some deficiencies in the operation of the current system.

The purpose of the Industrial Standardization Act is as follows. The Industrial Standardization Law enacts and disseminates appropriate and reasonable industry standards and supports quality management to improve the quality, production efficiency, and production technologies of mining and related industries and services related to industrial activities. The Industrial Standardization Law improves industrial competitiveness and develops the national economy by simplifying and streamlining transactions and rationalizing consumption.

Quality Management Basic Plan

In accordance with the Article 3 of the "Quality Management and Industrial Safety Management Act" and Article 3 of the Enforcement Regulations of the Act, the Korean government has established the 'Fourth Quality Management Basic Plan' for the realization of '2020 Smart Quality Power Country'.

The main points of the 'Fourth Quality Management Basic Plan' consist of four major tasks: 1) securing smart quality innovation capability, 2) securing global competitiveness, 3)

strengthening the foundation for developing quality enterprise, and 4) creating environment for promoting quality management. have. In addition, mid-to-long-term quality policy to respond to the latest trends such as the spread of technology fusion and composite products according to the 4th industrial revolution and dual track strategy to pursue existing quality policy in parallel with preemptive and initiative response to rapidly changing industrial ecosystem.

According to the current trend of quality and quality management to date, the concept of quality is changing from the point of meeting the sensitivity of customers and guaranteeing the value of customers. The goal and direction of quality management according to the age are establishing and implementing appropriate quality management basic plan.

Domestic Quality Management Status

In order to assess the level of quality competitiveness in Korea, we analyzed the quality - related factors among the evaluation indexes of the national competitiveness index announced annually by the World Economic Forum and the International Management Development Institute. As a result of comparing national competitiveness and quality competitiveness of major countries in the world, countries with high national competitiveness were evaluated as having high quality competitiveness. In particular, the United States, Switzerland, Germany, and Japan maintained a solid group of quality competitiveness. In addition, while the ranking of quality competitiveness of major countries such as USA, Switzerland and Germany has been rising for the last five years, Korea has been ranked 15th in 2012, followed by 19th in 2013 to 22nd in 2014 to 22nd in 2015.

As such, the downward trend in Korea's national competitiveness and quality competitiveness rankings is due to the

decrease in rank of four factors such as human resources development, technology capacity of companies, corporate ethics, and social responsibility factors. The changes in the ranking of each item in 2012 and 2015 are as follows.

Human resource development fell from 6th to 33rd place, technology capacity of the company from 11th to 27th place, business ethics from 35th to 49th place, and social responsibility factor from 13th to 50th respectively. It is analyzed that the quality management factor for corporate sustainability is insufficient for the development of human resource development and the decline of the technical capacity factor of the enterprise, and the decline of the corporate ethics and social responsibility factor.

The results of the survey on the quality status of SMEs in Korea are as follows. As a result, global competitors tend to perceive quality related activities as continuous improvement activities and competitive differentiation factors. In addition, quality activities are actively utilized as a means to secure competitive advantage.

On the other hand, domestic SMEs have confirmed that they are at a passive level to comply with laws and regulations, rather than recognizing them as competitive differentiators such as showing tendency to perceive quality activities as compliance activities and problem solving tools. The training to enhance the quality innovation capability, such as quality management technique education, is insufficient compared to the global level.

Prior Research Reviews

Quality management and management performance research

In Korea, the relationship between quality management activities and management performance is found to have a significant influence in general. The results of the national quality awards and management performance studies show that the

impact on the performance of the national quality imagery is partly significant and that there is a difference depending on the manufacturing industry or the service industry. In Korea, the relationship between quality management activities and business performance appears to be largely significant, but only partial results are obtained between companies that received national quality awards and those that do not.

Han et al (2014) study results as follows. This paper study the effect of the quality management on the performance among the manufacturing companies awarding the Korean National Quality Award(NQA). The data for 34 manufacturing companies are surveyed by the 7-point Likert scale and empirically tested. Even among the companies awarding NQA for their excellent quality management level there are significant differences in their performance by their quality management levels. In particular, leadership and human resources categories have greater impacts on the performance. Even though the company awarded NQA(KQMA: Korean Quality Management Award) for its excellent quality management level, it is necessary to improve the quality management level continuously. This result supports the necessity of KQGA(Korean Quality Grand Award) which is awarded for the companies which improve quality management levels significantly after awarding KQMA.

Cho (2017)'s research results as follows. The purpose of this study is to analyze the causal relationship between top management 's leadership and construction quality management activities that affect construction management performance based on construction quality management. As its method, the causal relationship between the leadership of top management and the key management factors of construction quality management activities affecting management performance is analyzed by using the structural equation model. The construction companies used in

the analysis sample conducted surveys on companies that are conducting ISO, KOSHA, OHSAS, DQC, and so on. It was revealed that top management's leadership has a great influence on management performance and all management factors of construction quality management activities. However, safety management does not affect the management performance of construction quality management activities. And top management's leadership on management performance are explained by the mediating effect of cost, time, quality and communication among management factors of construction quality management activities. In the previous study, the quality management activities and the ISO - based integrated total quality management system (TQM) applied in the manufacturing or service industries were presented as empirical results. However, this study presents the results of different studies by presenting empirical study results by selecting time, cost, quality, safety and communication as key management factors of quality management activities.

Park and Park (2013) study results as follows. The purpose of this study is to explore the linkage between QMS and TQM activities and their effects on financial and nonfinancial corporate performance with the innovation as an intermediary variable. Data collected were processed and analyzed by computer software such as LISREL 8.8 and SAS 9.3. Analysis of data and test of research hypotheses based on the structural equation reveal that, first, the conformity to ISO 9001: 2008 standard requirements has positive effects on the level of TQM activities. However, conformity to ISO 9001: 2008 standard requirements does not have significant effects on management innovation and financial/nonfinancial performances. Second, TQM activities have positive effects on the management innovation and financial/nonfinancial performances. It implies that companies with proactive attitude toward

systematic implementation of QMS and TQM activities would generally follow the path of successful management innovation. It also implies that company-wide and systematic efforts to optimize business processes by making use of TQM activities would result in better business performance. Third, management innovation has positive effects on the financial and nonfinancial performance. It implies that competitive advantages gained from management innovation such as differentiated products, innovative service, quality improvement, and improved efficiency with process innovation would contribute to the better business performance.

Park et al. (2013) study results as follows. The purpose of this study was to investigate if companies' efforts of quality management practices have positive impacts on the companies' performance as the first stage. In the second stage of this study, we tried to confirm if the degree of companies' making efforts on customization strategy and R&D strategy function as moderate variable on relationship between quality management practices and companies' performance. Methods: The collected data through survey were analysed using multiple regression for the first stage of the study and moderate regression for the second one of it. Results: The results of this study are as follows; quality management practices have positive effect on performances. Moreover, much effort on customization strategy has significant moderate effect on relationship between quality management practices and corporate performance. On the other hand, much effort of companies on R&D strategy has significant moderate effect on the relationship between the two as well. Conclusion: Manufacturing and services companies in Korea need to make effort of quality management practices in order to improve corporate performance. Moreover, if that efforts are combined with customization strategy and R&D strategy, they will expect synergy effect on performance improvement.

Kwon and Park (2014) study results as follows. In today's competitive business environment it is a necessary condition for a company to produce high-quality product for its survival and growth. That is the case in the auto-part industry as well where the international standards, ISO/TS 16949 certification, are required by customers to adopt mandatory. This study presents a successful implementation of quality management system(QMS) in a major auto-part manufacturer in Korea, utilizing SAP's QM(quality management) module and a mobile office system. The QMS brought the company "A" a variety of benefits such as real-time availability of product-inspection data, speedy decision-making, reduction in time required for defect-handling, ease of vertical integration of business partners in supply chain, and ease of business process standardization between headquarters and overseas subsidiaries. It is expected that the findings of this study can be used as a useful guideline for companies to consider implementing ERP-based quality management systems successfully.

Kim et al. (2014) study results as follows. This study analyzes the certification of ISO 9001 and operational characteristics of domestic construction companies, by setting the variables of measurement of ISO 9001 corresponding to the standard measurement and examining the characteristics of construction industry. That is, measurement variables that are applicable to the characteristics of industry are selected by dividing previous ISO 9001 standard into process control, quality assurance, cost control, measurement and improvement, and general requirements. Also, this study analyzes the relation of management characteristic variables of ISO 9001 by dividing results of ISO 9001 certification into product outcome, group outcome, and financial outcome, which are different from previous studies relevant to ISO 9001. The following summarizes main results of this study. First of all,

the result of test of hypothesis of operational accountability and variables of operational characteristics of ISO 9001 appears to be that operational accountability has positive effect on the process control, quality assurance, safety supervision, cost management, measurement improvement, general demands, etc. Secondly, it turns out to be operational accountability positively influence only financial outcome among quality of the product, coordination, and financial outcome. Lastly, when examining ISO 9001 certified firms and uncertified firms, the result shows that there is no difference between them. This particular characteristic is not related to the certification of ISO 9001. The effectiveness of ISO is inadequate and the structure of competition of the industry centered on the financial outcome, hence certified and uncertified firms do not have difference in operational system.

Yook (2010) study results as follows. According to the management literature review, nonfinancial quality measures may not accurately represent customers' perception of product that prompt them to make future buying. On the other hand, financial quality measures could catch activities strongly correlated with future lost sales. This paper test the extent to which reported quality measures are informative about future revenues by examining the extent to which changes in reported quality measures predict future changes in revenues. This study finds that external failure and internal failure costs negatively and positively respectively, associated with future sales. The study also finds that the relation between the number of customer complaints measures and future sales generally are negative and statistically significant. However, improvement in defect rates do not affect future sales in the all subsequent quarters. Furthermore, the results show that appraisal costs could negatively affect failure costs, but prevention costs are insignificant at 10 percent level, and do not affect failure costs.

Quality management and productivity

Park et al. (2006) study results as follows. We categorize quality management practices as two factors; infra factor and process factor. We confirm the factors statistical significance with empirical investigation about 125 manufacturing companies in Seoul and Kyonggi area. Moreover, we find the two factors influences positively on manufacturing performance as costdown, improving new products, shortening of R&D activities. We prove these results with empirical method of structural equation model and AMOS program.

Park (2007) study results as follows. We defined quality management practice factor and workforce management factor and confirm their conformance, and examine the former affect positively on production performance. Moreover, we examine whether workforce factor have an moderate effect on quality management practice facor-performance relationship, using moderate regression. As the result of empirical study on nationwide manufacturing companies, workforce management factor has an moderate effect on the relationship, which means need for investment on two factors.

Kim et al (2014) study results as follows. The purpose of this study was to analyze the results of the productivity innovation partnership program and propose the method for improvement. We investigated 90 companies which are sub-contractors of Samsung Electronics, LG electronics, POSCO and so on. Methods: We developed and carried out a survey and analyzed the results of the program. The interviews are also performed. Results: This study shows that the partnership program is a effective method for improving quality and productivity of sub-contractors and it is necessary to extend coverage of this program. Conclusion: We

suggested some improvement points of the partnership program and they are to be applied in the next year. The results show that the suggestion is helpful and valuable.

Park (2011) study results as follows. This study contains below two contents. First, this study analyse an effect of consciousness of the quality cost for quality cost activity. Second, this study analyse an effect of quality cost activity for productivity improvement. The empirical result of this study is meaning that quality cost consciousness effects productivity improvement by quality cost activity. Therefore, this paper emphasizes consciousness of quality cost for productivity improvement.

Ha and Kim (2008) study results as follows. Not only air service centers but also company call centers are emerging as crucial parts in modern companies. In addition, along with the development of the IT industry, their functions and roles are increasingly important. Thanks to the development of telecommunication devices and the diversification of communication channels, today customers tend to try to resolve all the problem using telecommunication devices or the Internet. The IT industry development has brought lots of changes to human life, transforming human life style, thoughts and even culture. Today, as long as air travel is concerned, customers believe every problem can be resolved through air service centers. In the age when every problem can be resolved through a telephone call, it is natural that the function and role of service centers are being emphasized. They are important departments that contribute a lot to generating company profits. They answer customer questions, handle customer demands and complaints, and make suggestions to provide better services. Especially, as service centers have become customer-oriented and bigger, responded complex situations and realized profits, the importance of managing service centers has been recognized accordingly. Also, the background and reason for

the changes from simple function to comprehensive role to provide total service were discussed. Furthermore, operating methods to raise the efficiency of centers, various practical approaches, methods to generate good results, and systematic means were introduced. However, due to the characteristics of service centers, lost of unexpected events can take place. Therefore, consciousness of objective, a sense of duty, professionalism, thoughtful consideration and understanding of customer service clerks, high-level ability of a customer service clerk leader, and developing a bond of sympathy between clerks and leaders, teamwork and patients were considered important and thus emphasized. Lastly, differentiation strategies of air service centers and the direction they should follow were examined. Moreover, future plans for air service centers to emerge as competitive organizations were discussed. This study which investigated the present conditions and outlook of service centers is expected to contribute the development of air service centers and airline companies.

Kim and Ree (2011) study results as follows. In this paper, we study Improving the productivity through standardization in cable industry. Improve of industry fields are based on standard of working methods. We apply this standard method to cable industry. In this study, we propose a standard method.

RESEARCH PROPOSITIONS

This study analyzes the effects of the implementation of the requirements of the organization 's quality management system on the TQM activities, management innovation and productivity based on previous studies. We also analyze the impact of TQM activities on management innovation and productivity. Finally, we analyze the effect of management innovation on productivity.

The following research propositions are set up to verify the effects of quality management system requirements implementation on TQM activity, management innovation, and productivity.

Proposition 1: Implementation of quality management system requirements will have a positive impact on TQM activities.

Proposition 2: The implementation of quality management system requirements will have a positive impact on management innovation.

Proposition 3: Implementation of quality management system requirements will have a positive impact on productivity.

The following research propositions are established to examine the effects of TQM activities on management innovation and productivity.

Proposition 4: TQM activities will have a positive impact on management innovation

Proposition 5: TQM activities will have a positive impact on productivity.

CONCLUDING REMARKS

The purpose of this study is to improve the quality of products and services through the continuous improvement activities of the requirements of the quality management system certification, which is the international standard for quality management and quality assurance, and to identify the structural relationship

between TQM activities aimed at realizing customer satisfaction and management innovation and financial and non-financial productivity. In the meantime, the quality management system certification system has grown significantly in quantitative terms, but it has been criticized that the management system is operated systematically in enterprises, and it is insufficient in terms of improving management performance by continuous improvement.

The implementation of quality management system and TQM has long been recognized and implemented as a means of securing competitive advantage for many companies. However, the effect of TQM and quality management system implementation on the performance of each company may be different. As a result of this research, it is possible to improve the quality of products and services by improving the quality of products and services through the requirements of the quality management system certification, which is an international standard for quality management and quality assurance, Quality management activities that affect management innovation and productivity, as well as company-wide quality management activities, by identifying the structural relationship between TQM activities aimed at management innovation and financial and non-financial productivity .

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Appendix 1 – Cognitive Style Indicator Questionnaire

Please indicate to what extent the following statements specify you.

1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree

- | | | | | | | |
|---|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | I like much variety in my life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | I study each problem until I have understood the underlying logic. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | I prefer well-prepared meetings with a clear agenda and strict time management. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | I like to contribute to innovative solutions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | New ideas attract me more than existing solutions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | I make definite engagements which I follow-up meticulously. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | I try to avoid routine. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 8 | I want to have a full understanding of all problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Developing a clear planning is very important to me. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | A good task is a well-prepared task. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | I prefer to look for creative solutions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | I always want to know what should be done when. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | I like to analyse problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | I like to extend the boundaries. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | I make detailed analyses. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | I prefer clear structures to do my job. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | I am motivated by ongoing innovation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | I like detailed action plans. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Management Review: An International Journal (MRIJ)

Objectives

Business management is a primary area of market competitiveness and sustainability in all types of industries. Managerial insights in the global and/or local business are major drivers of organizational innovation, business dynamics and business value chain. Managerial review will be an integral player in the 21st knowledge industry and economy.

Nevertheless, how to foster managerial review and insights have not been appropriately explored in terms of global or local business perspectives. In fulfilling of this urgent and timely theme, business management need more sustainable profitability, better operational excellence, higher goods and services quality, more proper market promotion, stronger leaderships, and more accurate financial planning in order that business organizations are more competitive.

This journal's main objective is to establish an outlet for executives, managers, educators, and researchers interested in a variety of topics in business management and insights in terms of global or local perspectives. Thus, papers will focus on the global or local implications of managerial review and insights in business settings.

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- Business decisions and insights

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- Engineering management
- Entrepreneurial study and venture business
- Ethical issues in business and social responsibility
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- Information management
- Leadership and organizations
- Market life management
- Management theory and philosophy development
- New business creation and strategy management
- Operational excellence with customer intimacy
- Pedagogy to foster business management
- Planning for profit and non-profit business
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(2018.1.1-2018.12.31)

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December 30, 2018

ISSN: 1975-8480

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