

INNOVATION MANAGEMENT OF CONGLOMERATES IN THAILAND

Janjira Janchome
Chulalongkorn University, Bangkok, Thailand
janjiration@gmail.com

Natcha Thawesaengskulthai
Chulalongkorn University, Bangkok, Thailand
Natcha.T@chula.ac.th

Abstract:

Managing innovation is to understand how the innovation process can be successfully led and resulted in output and outcome. Considering important factors before managing innovation will help firms avoid failures in innovation projects. The aim of this paper is therefore to propose a model of innovation management and the contextual factors influencing the management in conglomerates in Thailand. This paper conducted literature review of innovation management (IM) models, and analyzed the contextual factors by empirical studies on successful companies and thereby describing how they organized innovation to propose the conceptual IM model. Exemplar innovation management practices from the largest four conglomerates in Thailand that were driven by innovation policy were studied through in-depth interviews and observations. The factors were criticized and weighted on whether they are relevant and critical to the innovation management. Similar and important factors of innovation management are six groups of factors which are external factors, organizational stance factors, resource allocated factors, innovation management system, build on experience factors and the measurement of outputs; profit, sales, growth and outcomes; new customer, customer satisfaction and corporate image. While comparing both the proposed IM model and company's practice, additional attention is paid to several dimensions of innovation searching for patterns that assist in the practical use of the findings.

Keywords: innovation, innovation management, conglomerates, Thailand

1. INTRODUCTION

Understanding how to manage innovation successfully is crucially important in a time when innovation is an almost obligatory survival strategy. Therefore, scholars and practitioners have studied how innovation can actually be managed (Eveleens, 2010). The need for innovation is imperative (Tidd and Bessant, 2005). Innovation Management is not based on "One size fits all" due to organizational and outside dynamics factors (Drejer, 2002). Successful innovation management routines are not easy to acquire because they represent what a particular firm has learned over time, through a process of trial and error, and they tend to be very firm-specific (Tidd and Bessant, 2009). The main problem of innovation management is to deal with the complexity, uncertainty and risk (Tidd, 2006). Hence, considering all relevant factors before managing innovation will help firms avoid failures in innovation projects.

Various models of the innovation management have been offered in the literature to help firms manage their innovation activities. These models have the relevant factors that facilitating the management of individual innovation projects and some are able to provide an overall strategic look at innovation throughout the firm. In most successful conglomerates in Thailand, which continuously enlarge and grow up in the market, were driven by innovation policy to catalyze their own growth. On an empirical level, there is a lack of information and studies on the innovative practices of the largest four conglomerates in Thailand. This gap is being gradually minimized by sector or regional analyses or case studies, which enable us to understand the behaviour of conglomerates to manage innovation to propose the conceptual innovation management model.

The aim of this paper is therefore to propose a model of innovation management and the contextual factors influencing the management in conglomerates in Thailand that were driven by innovation policy were studied through in-depth interviews and observations by nine interviewees who have been involved significantly in the innovation management from six selected companies of the largest four conglomerates in Thailand which are in distinct industries with different core products. Many research questions are raised such as "Why the conglomerates choose to be an innovative organization?, What are the requirements to be considered as innovative firms in the group?, How does the board committee of the group drive and manage their firms to be innovative?" Key success factors and barriers that affect to the management of innovation in organizations are also revealed.

2. LITERATURE REVIEW

2.1. Innovation management is the key for business survival

Nowadays, innovation has been recognized as essential to driving business growth and sustainability (Christensen and Raynor, 2003), ensuring growth in the future and the survival of the organization (Tran, 2008) under rapidly changing, complexity, extremely competitive and uncertainty of the global economy (Siggelkow and Rivkin, 2005; Parker and Stacey, 1994). Thus the ability to innovate is one of the most important core competence of the organizations for survival or in Cooper's words, "It's war: Innovate or die" (Cooper, 2005). In brief, the need for innovation is imperative (Tidd and Bessant, 2005) but innovation might not be right for every organization due to innovation takes longer, costly, riskier than product improvement, multidimensional, high complex process and result in massive financial losses. The majority of failures are due to some weakness in the way the innovation process is managed (Van et al., 2004). The failure of innovation projects can be increased by barriers due to inadequate internal resources or by difficulties related to the commercialization of innovations, access to external funding, difficulties related to innovation development, and obstacles related to the lack of government standards and regulations (Demirbas, 2006; Freel, 2000). Therefore, the major challenge facing innovation managers is to avoid failure and strengthen the determinants of success. However, innovation management is not based on "One size fits all" due to organizational and outside dynamics factors (Drejer, 2002). Current innovation practices, such as the BS 7000-1:2008, recommends that the guidance need not be adopted in total. Successful innovation management routines are not easy to acquire because they represent what a particular firm has learned over time, through a process of trial and error, they tend to be very firm-specific. (Tidd and Bessant, 2009)

Indeed, The first step in managing innovation is to understand how the innovation process can be successfully influenced. This is pursued by empirical studies on successful companies and thereby describing how they organize innovation (e.g. Van de Ven and Poole, 1990; Rothwell et al., 1974;

Andrew et al., 2007). Innovation management basically means to tweak and alter the factors to increase quality and efficiency of the innovation process and to decrease the time it takes and the chance on failure (Eveleens, 2010). Hence, considering all relevant factors before managing innovation will help firms avoid failures in innovation projects.

2.2. Innovation management throughout the firm

Innovation management models have become more complex, more inter-disciplinary and more integrated (Eveleens, 2010). The relative importance of different models of innovation management varied by time-period because of different external influences (Miller et al 2007). Many scholars have sought to identify the key activities of the innovation management process (Wolfe, 1994, while the range and sequence of activities may vary across organizations and projects, their successful management is affected by a number of factors. Various models of the innovation management have been offered in the literature to help firms manage their innovation activities with proper measurement techniques and tools. Initially, the focus was on the overall innovation management model, as seen in the innovation process (Tidd et al., 2005), the innovation management measurement model (Adam et al., 2006), the measurement and evaluation of Innovation System (Davila et al., 2006), the BS7000-1:2008, the innovation process model (Eveleens, 2010), a firm-level innovation management framework (Cohn, 2013) and the integrated model of innovation management (Nagano et al., 2014). These models have the relevant factors that facilitating the management of individual innovation projects and some are enable an overall strategic look at innovation throughout the firm. Based on a review of similar and important factors of innovation management, we propose a six-group of factors framework of main categories specified in terms of complete process for managing innovation at the organization level (see Table 1).

Table 1: Relevant factors of innovation management model.

	Tidd et al., 2005	Adam et al., 2006	Davila et al., 2006	BS7000-1:2008	Eveleens, 2010	Cohn, 2013	Nagano et al., 2014
External factors	Search			Scanning the environment	(links with) outside the organization Strategy		Prospecting
Organizational stance		Innovation strategy Organization and culture		Organizational stance	Culture Leadership Organizational structure	Business base Will & culture	Organization context
Resource allocated factors		Inputs	Inputs	Resource allocated	Resources/ skills	Resources	Resource
Innovation management system		Knowledge Management			Idea generation		
	Select	Portfolio Management	Processes	Problem-solving approach	Selection		
	Implement	Project management		Management system	Development and Testing	Solutions	Processes
		Commercialization			Implementation/ Launch		
					Post-Launch		
Build on experience	Learn		Build on experience	Learning			
Measurement of innovation			Outputs and outcomes			Value	

While there are areas of commonality across these innovation management models, no one model covers every dimension. We use these six derived categories as the organizing framework for a discussion of innovation management. For each of the categories, there consist the relevant series of sub-dimensions which are identified, reflecting the distinctions and emphases in the literature.

External factors

Innovation management takes place in an internal and external environment. Competitive strategy is the element that shapes how the external environment sets the internal system of innovation in the organization (Freeman, 1982). We summarized the external environment of an organization that is: (1) Competitors; (2) The country and culture; (3) Economy; (4) Market demand and (5) Technological change.

Organizational stance factors

Organizational stance is needed to facilitate, coordinate, conduct and decide. The following list summarizes sub-dimensions in the internal dimension of the organization: (1) Attitude; (2) Policy; (3) Leadership; (4) Vision; (5) Share Values; (6) Strategy and strategic planning; (7) Support from top management; (8) Organizational Culture, climate and environment; (9) Organizational Structure; (10) Organizational Situation; (11) Operational guidance and internal process; (12) Innovation management skills; (13) Regulatory requirement; (14) Stakeholder through value chain; (15) Size of firm; (16) Type of firm; (17) Type of industry and (18) Type of innovation.

Resource allocated / Inputs

Inputs management is concerned with the sourcing of innovation activities to generating new ideas and makes effective use of the skills, knowledge and experience within the organization. The following list summarizes sub-dimensions in the resource allocated dimension of the organization: (1) Facilities or physical resources; (2) Funding; (3) Human resource management; (4) Internal and external networking; (5) Technological resource management; (6) The effectiveness communication; (7) Time.

Innovation management system

Use of systems and tools is an important input to the innovation process (Bessant and Francis, 1997; Cooper et al., 2004). The process is dynamic and all of the components are amenable to a system-wide. The following list summarizes sub-dimensions in innovation process and enable system dimension: (1) Commercialization; (2) Knowledge Management; (3) NPD process; (4) Portfolio management; (5) Project management; (6) Protect and exploit intellectual; (7) System to monitor progress and (8) System undertaking innovative work.

Build on experience factors / Learning

Managing innovation is as ability to learn (learning capacity) (Tidd et al., 2005) to understand how the innovation process can be successfully influenced and describing how they organize innovation (Van de Ven and Poole, 1990) and learn the lessons of experience. The following list summarizes sub-dimensions in learning dimension: (1) Build a distinctive competency; (2) Build a serial innovator; (3) Establish protocols for sharing information; (4) Evaluate the contribution; (5) Innovation award; (6) Learning and growth and (7) Reviews of innovation management.

The measurement of outputs and outcomes

Davila et al. (2006) have proposed the innovation measurement which is based on targets and indicators to evaluate four phases of process; inputs, processes, outputs and outcomes. According to the different innovation process in terms of the type of innovation. We choose to evaluate innovation in 2 steps: outputs and outcomes as final results. Outputs are the result of efforts to innovate. These indicate that organization has potential which can be explained in terms of both quantity and quality: (1) Growth; (2) Profit and (3) Sales. Outcomes demonstrate in terms of value or benefit to the organization: (4) Corporate image; (5) Customer's satisfaction; (7) Market share; (8) New customers and (9) Repeated customers.

2.3. Conglomerates innovation management practice.

Conglomerates may be regarded as dinosaurs in the developed world, but in emerging markets, diversified business groups continue to thrive (Ramachandran et al., 2013). Business groups are becoming increasingly diversified as same as the conglomerates in Thailand. In most successful conglomerates in Thailand, which continuously enlarge and grow up in the market, were driven by innovation policy to catalyzed their own growth. Many leading conglomerates were studied and revealed that these companies have an innovation vision to create their new products/services, increase their performance and encouraging employees to innovate continuously, such as innovation award, which will contribute to the sustainability of the firm in future. These points of view are interesting to become a topic of research in order to understand how the innovation process can be successfully influenced. On an empirical level, there is a lack of information and studies on the innovative practices of the largest four conglomerates in Thailand which are in distinct industries with

different core products which enable us to understand the behaviour of conglomerates to managed innovation to propose the conceptual innovation management model.

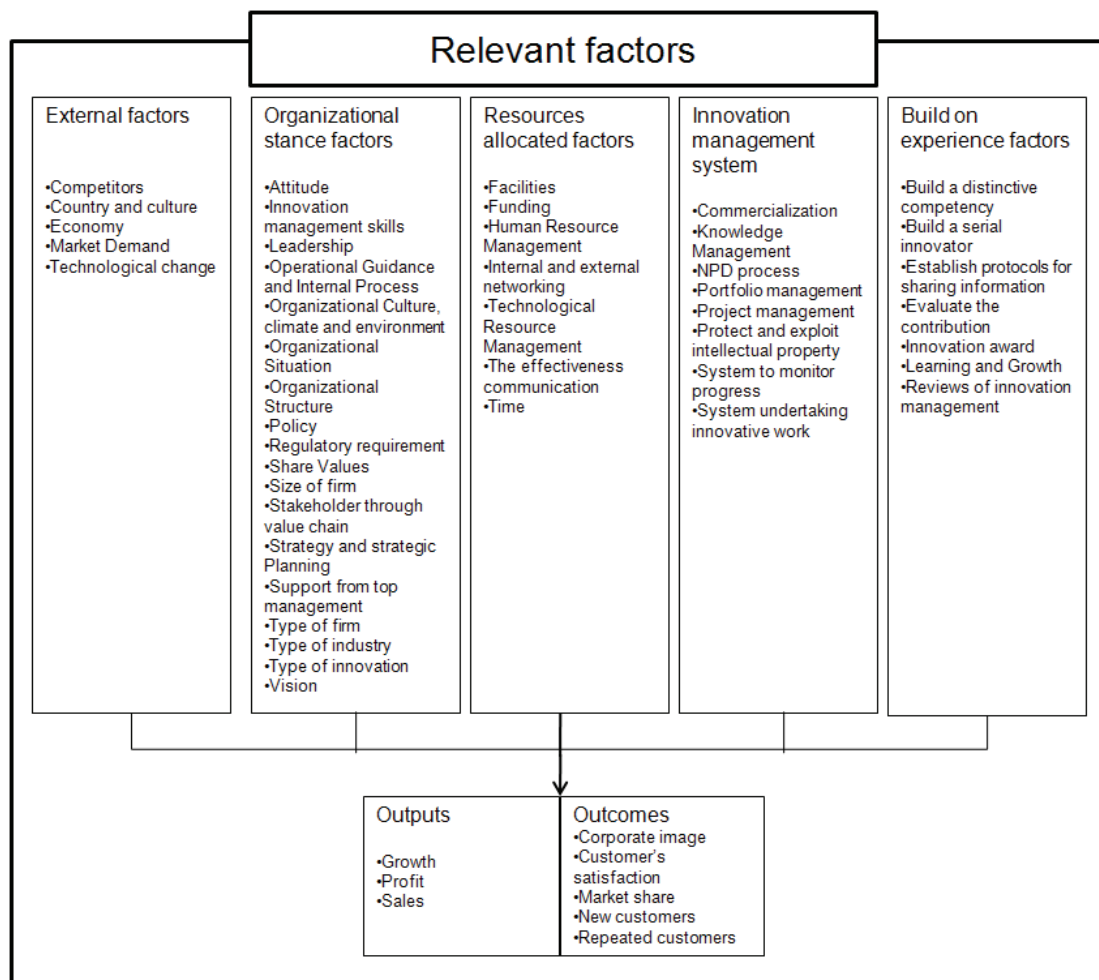
3. CONCEPTUAL FRAMEWORK

3.1. Developing a framework for innovation management models

Given the above findings, the conceptual framework which presents relevant factors of innovation management model is proposed. This construction, presented in Figure 1, is shown by a summary of work from different areas of research and has as a structural basis the model proposed by Nagano et al. (2014). Six groups of similar and important factors of innovation management are summarized and we separate the innovation measurement dimension from the IM Model due to set as the final outcomes that organizations, especially those that are new, small or relative novices at innovation can adopt to use as the basis of collaborative initiatives with suitable partners to promote innovation.

Figure 1 shows the proposed conceptual framework which presents relevant factors of innovation management model.

Figure 1: Conceptual framework of relevant factors for innovation management



4. METHODOLOGY

The aim of this paper is therefore to propose a model of innovation management and the contextual factors influencing the management in conglomerates in Thailand that were driven by innovation policy were studied through in-depth interviews and observations. Key success factors and barriers that affect to the management of innovation in organizations are also revealed. The method used in this

work is multiple case studies. The largest four conglomerates which are in distinct industries with different core products were selected. The list was defined with companies which accepted to take part in the research. For reasons of confidentiality, the names of the organizations are not published here. Table 2 shows a general description of these conglomerates.

Case studies require special care when collecting data. There were four sources in the case study companies: open-ended interviews, document analysis, direct observation and participant observation. Regarding the document analysis, the researchers had unrestricted access to project documentation and internal processes in conglomerate A. Innovation management processes were identified in document analysis of conglomerates B, C and D. Direct observation was made in all companies, conducted by visits to the places where the innovation departments are located. Participant observation was done by one of the researchers of this paper, acting as observer of the innovation committee to join innovation awards in conglomerates A, B and D. Through professional contacts of the researcher, out of a total of ten informal conversations with collaborators working with innovation in potential organizations, nine interviewees were contacted for the open-ended recorded interviews as these were the professionals who most fit the profile for this research, namely: conglomerate A: President and middle management of innovation projects. Conglomerate B: Innovation director, top manager, and a specialist. Conglomerate C: HR manager and technology manager. Conglomerate D: Innovation manager and R&D manager. The interviews lasted for two hours.

Table 2: Description of selected conglomerates.

Conglomerates	A	B	C	D
Type	Multinational	Multinational	Multinational	Multinational
Sector	Consumer products and fasion brands	Agro-industry,food,retail and telecommunications	Cement and building materials	Energy and petrochemical
Technological intensity of the sector	Low-Medium	Medium	High	High
Year of Establishment	1943	1921	1913	1978
Number of affiliates	Over 200	Over 200	276	46
Number of collaborators	100,000	300,000	30,000	Over 100,000
Annual revenue	THB100 billion	THB1,344billion	THB434billion	THB2,842billion

5. CASE STUDIES

Description of innovation management systems of each conglomerate:

Conglomerate A is a leading player in manufacturing and distribution products and fasion brands, operates in various sectors of the industry. Its group has diversified various types of innovation such as product, process, service and marketing innovation. In reason to concerning in innovation, its importance is to expand business for sustainable growth under the conglomerate's philosophy to provide highly quality product and fulfils social and environmental responsibilities. It has strong vision from president of the group with a supposedly-structured organization should be mentioned, as the willingly execution of CEOs subsidiaries and adhoc management committees have been formed. Its president enhances and promotes employees to innovate which innovation award. The level of maturity for its innovation processes is low and there are not integrated structural elements. Its key success factors are leadership focusing on innovation; in terms of supporting, funding, time and manpower, key player to drive innovation activity, effective internal network and organizational structure. Its main barriers can be identified as leader lacks of attention, the attitude of employees, lacks of time, inadequate funding and cooperation of affiliates.

Conglomerate B is the leading agro-industrial, food, retail and telecommunications industries with investment in 16 countries and today has become the world's largest producer of animal feed and shrimp, and one of the leading producers of poultry. It has a history of success stories in R&D over 86 years, having received national innovation awards for many times. Its main reason to make innovation an imperative for organizations is sustainable strategy for growth and business survival. It has strong sponsorship President, CEO and VPs to lead the innovation driven companies in terms of vision, policy and work system, as well as elements in people management which attempt to motivate inventive activity such as innovation awards. Its managing innovation initiatives are consistently shown by a corporate innovation group, organizational structure and strong links with a wide range of external

parties. Its key success factors are leadership with strong vision and supporting in terms of funding and time, organizational climate and effective internal and external network. Its main obstacle can be identified as leader lacks of vision, the attitude of employees, lacks of time, inadequate funding and government does not provide adequate support.

Conglomerate C is a leading cement and building materials industry in the ASEAN region. Its vision is that by the year 2015 will be well recognized as an innovative workplace of choice, and a role model in corporate governance and sustainable development both locally and internationally. Its main reason to make innovation an imperative for organizations is a strategic direction for sustainable growth in terms of continuously increasing business growth and enhances its competitive advantage. It has a clear vision and good business practices to constantly ensure that it operational excellence, technology development, and innovation to provide quality products and services in order to enhance the quality of life for all. It attempt to be a workplace with an open and energetic atmosphere with strong belief in the value of highly competent people, be working together innovatively and reinforce the use of innovation awards as an incentive to innovate. In overall, it has an effective innovation master plan, well-organized structure, measurable indicators and its empirical outputs and outcomes. Its key success factors are leadership with strong vision and shared value, sufficient funding, organizational culture, effective work system and internal and external network. Its main obstacle can be identified as an insufficient R&D employee to serve target budget.

Conglomerate D is the largest conglomerate in Thailand in energy and petrochemical sector as the nation's energy company with operating its business in alignment with a sustainability strategy by maintaining a balance of being a high performance organization and of a commitment to the continuous improvement of technology, innovation, and knowledge. Its main reason to make innovation an imperative for business survival due to limited resources of petroleum in the world. Therefore organizations need to shift their strategic direction from resource base to knowledge base by innovation strategy that leads to sustainable growth. It has strong sponsorship CEO and VPs to lead the technology vanguard. It has a clear innovation policy, strong R&D and high technology organizational climate. It has focused on reinforce the use of innovation awards as an incentive to innovate and build employee's pride and career path. Its key success factors are leadership with strong vision, clear policy and shared value, optimized organizational structure, effective internal and external network. Its main obstacle can be identified as an inadequate human resources and employee's attitude in terms of innovation is burden responsibilities.

5.1. Comparative analysis of the cases

Table 3 shows the level of structure of relevant sub-dimensions of innovation management model in each conglomerate. Among all conceptual framework of relevant factors for innovation management, six group of factors are in all of cases but there is different in detail of the level structure of sub-dimension. The comparative analysis shows that the conglomerates have different technological intensity of the sector in relation to understanding innovation management as a range of systemic inter-related processes. It can be observed that there is a difference in the processual discipline in conglomerate A compared to B, C and D. This context is also reflected in the presence of innovation in official corporate messages. In companies B, C and D, the search for innovation can be found in the mission and/or vision of the corporation, stating this strong guidance to be pioneers.

In conglomerate A, formal practices of five sub-dimensions of innovation management framework were not identified. A possible cause of this difference is structural: in conglomerate A the corporate innovation team is ad hoc responsible for this process, while in the others, governance is conducted and driven by a corporate innovation team that exist on organizational structure. In conglomerate B is at an intermediate stage, having multifunctional annual events but initial formal practices. Practices typical of cross-national companies can be found having formal elements for performance management, career and organizational climate, as well as a closer relationship of R&D teams with daily management. In conglomerate C and D, a strong presence of elements of structure and governance can be identified focusing on innovation management. A high level of maturity of multifunctional work, sustained by solid multifunctional teams and various multifunctional management committees which govern innovation processes can be found. Solid corporate governance for innovation by a corporate innovation team and innovation indicators focusing on individual goals can be found. This dimension is not very mature in conglomerate A and medium level of maturity in conglomerate B.

Table 3: Level of structure of relevant sub-dimensions of innovation management model.

Framework category	Sub-dimensions	Conglomerate A	Conglomerate B	Conglomerate C	Conglomerate D
External factors	Competitors	Present	Present	Present	Partially present
	Country and culture	Partially present	Present	Present	Present
	Economy	Partially present	Present	Present	Present
	Market Demand	Present	Present	Partially present	Partially present
	Technological change	Partially present	Present	Present	Present
Organizational stance factors	Attitude	Present	Present	Present	Present
	Innovation management skills	Partially present	Present	Present	Present
	Leadership	Present	Present	Present	Present
	Operational Guidance and Internal Process	Absent	Present	Present	Present
	Organizational Culture, climate and environment	Partially present	Present	Present	Present
	Organizational Situation	Present	Present	Present	Present
	Organizational Structure	Partially present	Present	Present	Present
	Policy	Present	Present	Present	Present
	Regulatory requirement	Present	Present	Present	Present
	Share Values	Partially present	Present	Present	Present
	Size of firm	Present	Present	Present	Present
	Stakeholder through value chain	Present	Present	Present	Present
	Strategy and strategic Planning	Partially present	Present	Present	Present
	Support from top management	Present	Present	Present	Present
	Type of firm	Present	Present	Present	Present
	Type of industry	Present	Present	Present	Present
Type of innovation	Present	Present	Present	Present	
Vision	Present	Present	Present	Present	
Resource allocated factors	Facilities	Partially present	Partially present	Present	Present
	Funding	Partially present	Present	Present	Present
	Human Resource Management	Present	Present	Present	Present
	Internal and external networking	Partially present	Present	Present	Present
	Technological Resource Management	Partially present	Present	Present	Present
	The effectiveness communication	Partially present	Present	Present	Present
	Time	Partially present	Partially present	Present	Partially present
Innovation management system	Commercialization	Present	Present	Present	Partially present
	Knowledge Management	Partially present	Present	Present	Present
	NPD process	Partially present	Partially present	Partially present	Partially present
	Portfolio management	Partially present	Partially present	Present	Present
	Project management	Partially present	Partially present	Partially present	Partially present
	Protect and exploit intellectual property	Partially present	Present	Present	Present
	System to monitor progress	Absent	Partially present	Present	Partially present
	System undertaking innovative work	Absent	Partially present	Present	Partially present
Build on experience factors	Build a distinctive competency	Absent	Partially present	Present	Present
	Build a serial innovator	Partially present	Partially present	Present	Partially present
	Establish protocols for sharing information	Partially present	Present	Present	Partially present
	Evaluate the contribution	Partially present	Present	Present	Present
	Innovation award	Present	Present	Present	Present
	Learning and Growth	Partially present	Partially present	Present	Partially present
	Reviews of innovation management	Absent	Partially present	Partially present	Partially present
Measurement of outputs	Growth	Present	Present	Present	Present
	Profit	Present	Present	Present	Present
	Sales	Present	Present	Present	Present
	Customer's satisfaction	Partially present	Present	Present	Present
Measurement of outcomes	Market share	Present	Present	Present	Present
	New customers	Present	Present	Present	Present
	Repeated customers	Present	Present	Present	Present

6. RESEARCH RESULT AND DISCUSSION

Following a review and synthesis of the literature, we proposed a six-group of factors framework of main categories specified in terms of complete process for managing innovation at the organization level. While comparing both the proposed innovation management model and company's practice, the presented results show that the contextual factors are relevant and critical to the innovation management in conglomerates in Thailand as the proposed innovation management framework.

In fact, the four conglomerates have different technological intensity of the sector in relation to understanding innovation management as a range of systemic inter-related processes that lead to reflect in the different levels of maturity and orientation to innovation. As conglomerate A can be highlighted by the low level of maturity of its organizational structure and innovation management process. This point of view, we can identify the behaviors of conglomerate A by its characteristics of core products which is based on current fashion and fast moving market. Thus, its working process is focusing on market pull more than technology push then the elements responsible for organizing and controlling activities and the involvement of the various areas are shown us an "ad hoc" effect by need speed response more than fully formal procedure. The situation is practically the opposite in conglomerates B, C and D which they are technological R&D business base type. Thus, the innovation

systems in these conglomerates appear to be mature in more “mechanistic” dimensions, processual and structural.

Following a question of case studies, there presented that the main reason to innovate is therefore to survival and sustainable strategy for growth. This is the empirical answer that has more homogeneity in the cases. Therefore, we have indentified that innovation is an almost obligatory survival strategy in conglomerates in Thailand. From the perspective of its management, key success factors are similar in all of cases which are leadership with strong vision, clear policy and shared value, adequate resources, optimized organizational structure, effective internal and external network. There have been several studies that have investigated the contextual factors of innovation management (e.g. BS7000-1:2008; Cohn, 2013 and Nagano, 2014), which relate to presented result from the practice of innovation. Meanwhile, there are many barriers to creating a culture of innovation. Research has identified these critical ones which are lack of leadership support in terms of driven by time and money, inadequate in human resources and “innovation is a burden” attitude of employees. This resented result relate to several studies (Demirbas, 2006; Freel, 2000). Indeed, it is clear that organizations can create environments in which innovation can be encouraged or hampered (Dougherty and Cohen, 1995; Tidd et al., 1997).

Underlying the relevant factor of innovation award as an incentive to innovate is issue related to encouragement of innovation from the individual’s point of view. There have been several studies revealed that innovation awards can be positively linked to encouraging innovation as they recognize success, and encourage others to emulate (Rosenblatt, 2011) which related to the presented result has been revealed that all cases use the right rewards system to provide a powerful force for reinforcing commitment, directing employee professional growth, and shaping the corporate culture to be more innovative. This has been considered that practitioner should include innovation award and reward programs as the enable innovation activity in the innovation management system.

Last point of discussion, it has to be noted that the literature search for relevant factors of innovation management has been extensive, but not very structured. This overview has kept the original terminology of the authors for authenticity. This resulted in a very rich database, but varied in terms of terminology. To make further steps with this overview, some general terminology has to be used for clearness. When this is done, the overlap and underlying differences become clearer. This will be a task for further research. Effective use can be achieved through the smart selection of relevant clauses and adapting them to an organization’s particular circumstance.

7. CONCLUSIONS

The conglomerates agreed that managing innovation is a key priority of an organization under rapidly changing, complexity, extremely competitive and uncertainty of the global economy. Key triggers that drive firms to innovation policy are for survival and prosper which usually depends on the expansion of existing markets, withdrawal from stagnant markets and taking advantage of new opportunities, create customer loyalty and enhance repeated purchase of customer.

With comparing both the proposed innovation management model and company’s practice, the presented results show that the contextual factors are relevant and critical to the innovation management in conglomerates in Thailand as the proposed innovation mangement framework. We suggest that the proposed IM model can be used as the pattern that assist in the practical use of the findings. However, the proposed IM model in the literature often abstract, to use with little consideration would be useful and given benefit as a management tool in the daily context of managing innovation.

8. LIMITATIONS AND FUTURE RESEARCH

The research results should also be analyzed in light of their limitations. The number of companies studied did not provide conditions for this research to create patterns that represent all of the innovative organizations in Thailand. As the cases themselves demonstrated that innovation management in different sectors are complex and influenced in different ways by moderator variables. Therefore, it is not possible in this study to summarize all possible influences and complexities between the variables investigated. There are possibilities to continue this research which refers to extending the research to a larger number of companies, thus expanding the potential of interpretation

and finding adoption patterns and outcomes in managing innovation in organizations located in Thailand.

ACKNOWLEDGEMENTS

The authors would like to thank the reviewers of this paper for making many valuable suggestions and thoughtful comments; and the financial support from Chulalongkorn University.

REFERENCE LIST

1. Adams, R., Bessant, J., Phelps, R., (2006). Innovation management measurement: a review. *Int. J. Manag. Rev.* 8 (1) 21–47.
2. Amabile, T.M., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39, 1154–1184.
3. Andrews, J.P., H.L. Sirkin, K. Haanaes, D.C. Micheal (2007) *Senior Management Survey on Innovation*, Boston Consultancy Group. bcg.com
4. Bessant, J., & Francis, D. (1997). Implementing the new product development process. *Technovation*, 17(4), 189-222.
5. Borins, S. (2001). Public Management Innovation Toward a Global Perspective. *The American Review of Public Administration*, 31(1), 5-21.
6. BSI, B. (2008). 7000-1: 2008 Design Management Systems–Part 1: Guide to Managing Innovation. *British Standard Institution, London, UK*.
7. Christensen, C. M., & Raynor, M. E. (2003). Why hard-nosed executives should care about management theory. *Harvard business review*, 81(9), 66-75.
8. Cohn, S. (2013). A Firm-Level Innovation Management Framework and Assessment Tool for Increasing Competitiveness. *Technology Innovation Management Review*, 3.
9. Cooper, R. G. (2005). Product leadership. *Basic Books*.
10. Cooper, R. G., Edgett, S. J., & Kleinschmidt, E. J. (2004). Benchmarking best NPD practices–III. *Research-Technology Management*, 47(6), 43-55.
11. Davila, T., Epstein, M. J., & Shelton, R. (2006). Making innovation work: How to manage it. *Measure It, and Profit from It*.
12. Demirbas, D. (2006). New institutional Economy and Innovation Barriers: a microeconomic evidence. *The Business Review, Cambridge*, 5(2), 82-88.
13. Dougherty, D. E. B. O. R. A. H., & Cohen, M. A. (1995). Product innovation in mature firms. *Redesigning the firm*, 87-115.
14. Drejer, A. (2002). Situations for innovation management: towards a contingency model. *European Journal of Innovation Management*, 5(1), 4-17.
15. Eveleens, C. (2010). Innovation management; a literature review of innovation process models and their implications. *Nijmegen, NL*, 1-16.
16. Freel, M. S. (2000). Strategy and structure in innovative manufacturing SMEs: the case of an English region. *Small Business Economics*, 15(1), 27-45.
17. Freeman, C., Clark, J., & Soete, L. (1982). *Unemployment and technical innovation: a study of long waves and economic development*. Burns & Oates.
18. Miller, D. J., Fern, M. J., & Cardinal, L. B. (2007). The use of knowledge for technological innovation within diversified firms. *Academy of Management Journal*, 50(2), 307-325.
19. Nagano, M. S., Stefanovitz, J. P., & Vick, T. E. (2014). Innovation management processes, their internal organizational elements and contextual factors: An investigation in Brazil. *Journal of Engineering and Technology Management*, 33, 63-92.
20. Parker, D., Stacey, R. D., & Robinson, C. (1994). *Chaos, management and economics: The implications of non-linear thinking* (Vol. 125). London: Institute of Economic Affairs.
21. Ramachandran, J., Manikandan, K. S., & Pant, A. (2013). Why Conglomerates Thrive (Outside the US). *Harvard business review*, 91(12), 110-+.
22. Rosenblatt, M. (2011). The use of innovation awards in the public sector: Individual and organizational perspectives. *Innovation*, 13(2), 207-219.
23. Rothwell, R., Freeman, C., Horlsey, A., Jervis, V. T. P., Robertson, A. B., & Townsend, J. (1974). SAPPHO updated-project SAPPHO phase II. *Research policy*, 3(3), 258-291.
24. Siggelkow, N., & Rivkin, J. W. (2005). Speed and search: Designing organizations for turbulence and complexity. *Organization Science*, 16(2), 101-122.
25. Tidd, J. (2006). A review of innovation models. *Imperial College London*, 16.

26. Tidd, J. B. J. and Pavitt, K.(2005).“. *Managing Innovation. Integrating technological, market and organizational change*” John Wiley & Sons, Ltd.
27. TIDD, J. B. J.(2009). *Managing Innovation: Integrating Technological, Market and Organizational Change, 4th ed., John.*
28. Tidd, J., & Trewhella, M. J. (1997). Organizational and technological antecedents for knowledge acquisition and learning. *R&D Management*, 27(4), 359-375.
29. Tran, T. (2008). A conceptual model of learning culture and innovation schema. *Competitiveness Review: An International Business Journal*, 18(3), 287-299.
30. Van de Ven, A. H., & Poole, M. S. (1990). Methods for studying innovation development in the Minnesota Innovation Research Program. *Organization science*, 1(3), 313-335.
31. Van der Panne, G., Van Beers, C. and Kleinknecht, A. (2004), “Success and failure of innovation: a literature review”, *International Journal of Innovation Management*, Vol. 7 No. 3, pp. 1-30.
32. Wolfe, R. A. (1994). Organizational innovation: Review, critique and suggested research directions*. *Journal of management studies*, 31(3), 405-431.