Understanding the organizational critical activities of manufacturers in case studies

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Abstract. Manufacturers tend to carry out certain important and continuous activities with respect to internal operations which could contribute to their success. These activities are termed organization critical activities (OCAs). The main objective of this study is to elicit the OCAs in the manufacturing industry to understand what can cause them to be successful. Through the case study approach including the interviews with the senior managers from three manufacturing companies in Taiwan and a series of prioritizing activities, 12 OCAs have been identified. This study found that Taiwanese manufacturers placed more importance on the activities of quality and cost control while placed relatively less importance on the marketing related activities. More findings and future research suggestions are also provided.

1 Introduction

Manufacturers tend to carry out certain important and continuous activities with respect to internal operations which could contribute to their success. These activities, are termed organization critical activities [4], being granted significant resources and supervision from the senior management. Organization Critical Activities (OCAs) was introduced by Hung [4], and is defined as: the activities constantly conducted by the organization for the success in the industry. They are regarded as an essential to the short-term, mid-term, and long-term success of the organization. Thus they receive a huge amount of resources and frequent supervised and directed by the senior management.

However, there is the lack of research studying what organization critical activities are conducted by manufacturers in order to ensure their success. The main objective of this study is to elicit the OCAs in the manufacturing industry to understand what can cause them to be successful.

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2 Organization critical activities

Activities are the implementations of works within the organization [10]. They are established in strategies, tactics, and various organizational levels [5, 6, 8]. Activities are to be implemented during works, and they are the minimum unit of work in the organization which will support the works of different departments and levels. Different departments and levels will support different activities, yet they will all result in the same result, which is the enhancement of performance and efficiency of work due to support by activities.

It was defined in research of Hung [4] that organization critical activities are the activities to be constantly implemented by an organization for success of industry. Organization Critical Activities (OCA) are regarded as an essential element for the short-term, mid-term, and long-term success of industry. Thus they will receive a huge amount of resources and frequent supervision and instruction from high level management.

Hung [4] summarized the definitions of process flow by various scholars [1, 2, 3, 7, 11, 12], and proposed that processes are mutually correlated activities among various levels. This kind of activity is embedded in a set of rules and resources. It can enforce and grant social activities as shown in Table 1 below.

Table 1. The inclusion relation among process flow, task, activity, and OCA [4].

Name	Content	Range
Process	Activity, entity, rule, resource	1、2、3、4
Task	Resource and activity	2、3、4
Activity	Critical and non-critical	3、4
OCA	Critical activity for business success	4

The comparison of activity, task, and process involving OCA is as shown in the figure above. The activity is an essential core of a given process of task. An activity contains less processes and tasks. Organization critical activity is the activity constantly carried out by organization for achieving success, which must be greatly supported by high level supervisors with a great deal of resources. They are the activities to be constantly carried out by an organization for achieving success. They are the activities and essential element for an industry to achieve short-term, mid-term, and long-term success. It is only focused on whether or not the activity itself can achieve the organizational success.

In project management, critical path is a method for determining the starting and ending date of a project. The result of this method is to find a critical path, or to form a shortest chain of activities from start to finish. The critical path of activities is called critical activities [9], and the project management process flow can contribute to identification of task items of critical activities. Even though the term of “Critical Activities” in project management is very similar to the term of “Organization Critical Activities”, critical activities actually refer to the short-term timeframe dedicated to completing a given task in project management, rather than a long-term activity for organizational success.

3 Methodology

In this study we use the manufacturing industry in Taiwan as an example to investigate what OCAs are conducting in order to ensure manufacturing companies' success. The data collection and analysis methods were case study and thematic coding. A total of 15 supervisors from 14 domestic manufacturing companies were participated in the interviews, and all interviews were voice recorded and analyzed. The basic company information, company background, and personal information of respondent are as shown in Table 2.

Table 2. Basic information of respondent.

Respondents	Years of work	Job/Duty	Industry
I1	7	Chief Officer of Safety, Health, and Environmental Protection	Electronic components industry
I2	10	Chief Officer of IT Department	Automobile/Motorcycle parts retailers
I3	16	R&D Manager	Automobile/Motorcycle parts retailers
I4	9	IT Chief Leader	Storage/Transportation industry
I5	12	Procurement Manager	Machinery and hand tool industry
I6	13	Business Manager	Chemical raw material manufacturing industry
I7	10	Sales Manager	Electronic components industry
I8	8	Head of Production	Electronic components industry
I9	12	Deputy R&D Director	Chemical raw material manufacturing industry
I10	15	Business Manager	Electrical machine manufacturing industry
I11	6	Chief of General Affairs and Procurement	Storage/Transportation industry
I12	8	Deputy Business Manager	Chemical raw material manufacturing industry
I13	9	Sales Manager	Chemical raw material manufacturing industry
I14	9.5	Chief of Production	Electronic components industry
I15	9.5	Chief of Factory Affairs	Chemical raw material manufacturing industry

In this study, the one-on-one interview was adopted with the semi-structural interview approach. Before each interview, the research objectives were introduced to the interviewee. During the interview, the interviewer asked the respondent how his/her company defined success without providing any information related organization critical activities, and then gradually guide the interviewee to describe the content and measure of organization critical

activities of the company. After receiving the answer, the interviewer provided the list of organization critical activities to be confirmed and corrected by the interviewee in order to update the current OCA list. After the interviews, two experts made the suggestions and corrections to ensure that we obtained the most appropriate list of OCAs in the manufacturing industry.

4 Results and discussions

The results of interviews at initial stage of this study have revealed a total of 12 OCAs in the manufacturing industry. The first OCA is the development of new products. The second OCA is the development of new technology. The third OCA is marketing research. The fourth OCA is the expansion of domestic and foreign customer bases. The fifth OCA is sustaining existing customers. The sixth OCA is providing specialized services. The seventh OCA is ensuring product quality. The eighth OCA is ensuring the quality of raw material. The ninth OCA is enhancing production efficiency. The tenth OCA is providing personnel training. The eleventh OCA is increasing the efficiency of internal staff. The twelfth OCA is cost control.

After eliciting a list of OCAs, we then interviewed the senior managers from the other three manufacturing companies for prioritizing the 12 OCAs. Relevant company document was also analyzed to triangulate the given priorities. Results of the priorities given by the three case companies are shown in Table 3. The average priority of each OCAs was calculated for generating the final list of OCAs for the three manufacturing companies.

Table 3. Priorities of OCAs given by the three case companies.

Priority	OCAs	Priorities Given by the Case Companies			
		Case A	Case B	Case C	Average
1	Ensuring product quality	1	4	4	3
2	Ensuring the quality of raw material	4	5	3	4
3	Cost control	2	8	5	5
4	Development of new product	7	9	1	5. 7
5	Development of new technology	5	10	2	5. 7
6	Sustaining the existing customers	11	2	6	6.3
7	Increasing the efficiency of internal staff	9	1	10	6.7

7	Enhancing production efficiency	3	6	11	6.7
9	Marketing research	6	7	8	7
10	Expansion of domestic and foreign customer bases	12	3	7	7.3
11	Providing personnel training	8	11	9	9.3
12	Providing specialized services	10	12	12	11.3

According to Table 3, the top three OCAs are ensuring product quality, ensuring the quality of raw material, and cost control, which means that quality and cost are two major activities to achieve success for the manufacturers. The next two are development of new product and development of new technology, which means research and development related activities are important to the companies' success. Interestingly, market research and expansion are relatively in the lower level of priority.

5 Conclusions

Very few studies in the past have focused on eliciting the OCAs in the manufacturing industry. This study aims to investigate what critical activities are carrying out by the manufacturers in Taiwan. Through the case study approach including the interviews with the senior managers from three manufacturing companies and a series of prioritizing activities, 12 OCAs have been identified. This study also found that Taiwanese manufacturers placed more importance on the activities of quality and cost control while placed relatively less importance on the marketing related activities. Yet, they believed that quality and cost control, manufacturing efficiency, marketing, training, and services are all important to their success. From the government perspective, this study allows the government to better understand the current operation situations of Taiwanese manufacturing industry, and thus to help them develop appropriate policies for them to achieve their success. From the enterprise perspective, the results of this study can provide reference for manufacturers in other countries to elicit their OCAs and to better manage their activities for success. Future research can apply the methods used in this study in other countries or industries for better understanding of achieving organizational success.

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