How admitted factors influence on quality management

Xu Yang and Christian Bach

Department of Technology Management, University of Bridgeport Bridgeport, CT, USA

ABSTRACT:

Purpose: Understand the definition of quality management and its important factors. Study the advantage and disadvantage of quality management in various fields.

Methodology: Literature reviews and case study will be used to obtain information thus forming ideas. Other research methods such as experiment, data acquisition, and analysis might be used in the following works.

Findings: Quality management is a useful technique in various fields, such as: business, education, non-profit organizations. There are five factors that have distinct impact on quality management: management style, leadership, employee involvement, customer satisfaction and quality standard.

Research limitations/implications: The definition of quality management is ambiguity in some aspects. Many middle managers are not very clear with the difference between quality assurance, quality control and quality management.

Practical implications: Quality management is not only confined into quality aspect. It is also contributing in making profit for the organization.

Originality/value: This paper engaged into investigating the benefit of quality management in different area and studies its factors which affect the performance of quality management. A new model has been built to illustrating the importance of quality management and its factors.

KEYWORDS: Quality management, Management style, Leadership, Employee involvement, Customer satisfaction, Standard

1 INTRODUCTION

While quality control (QC) and quality assurance (QA) departments in an organization are traditional sectors, the concept of quality management is relatively new. It is a technique that wildly implemented into various filed. (Apte & Reynolds, 1995; Benson, Saraph, & Schroeder, 1991; Birch & Pooley, 1995; Caswell, Bredahl, & Hooker, 1998; Hyde, 1992; Johnson, 1968; McNabb & Sepic, 1995; Mills & Rorty, 2002; Schonberger, 1992; Swiss, 1992). It is a tool that helps company producing qualified product thus accomplish the ultimate goal: making profit.

2 RESEARCH METHODOLOGY

Several research methods are used into this paper to form and improve ideas. A review centric research methodology has been adopted for this research paper. A research model has been built to illustrate main idea. The independent factor is quality management and dependent variables are analyzed by researching on journal articles. Case study is also used into this paper to discuss how additional factor affect on independent factor.

A flow chart of research process will be illustrated by following chart:

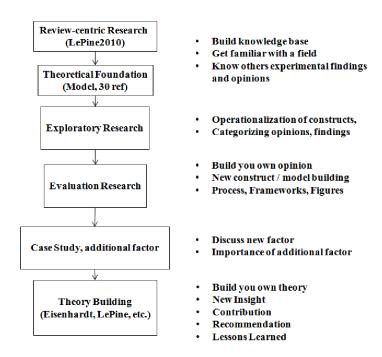


Figure 1 Research Process

3 SCIENTIFIC MODEL

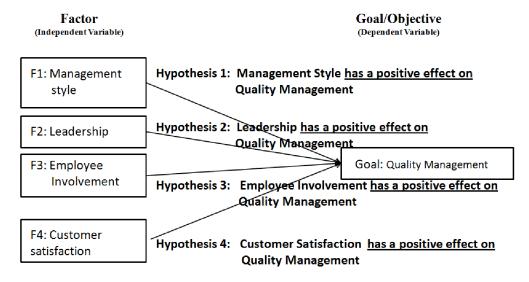


Figure 2: The quality management and its four independent variable factors

Goal-0: "Many organizations have arrived at the conclusion that effective quality management can enhance their competitive abilities and provide strategic advantages in the marketplace(Anderson, Rungtusanatham, & Schroeder, 1994) p.472."

Goal-1: "Empirical investigation shows that organizational characteristics matter in policy implementation of quality management in Hungarian higher education (Csizmadia, Enders, & Don, 2008) p.439."

Goal-2: "Total quality management has become something of a social movement. It has spread from its industrial origins to health care organizations, public bureaucracies, nonprofit organizations, and educational institution (Hackman & Wageman, 1995) p.309."

Goal-3: "Total quality management also demands a reexamination of procedures in an organization by employee teams, and this approach emphasizes patience and distrusts obvious answer (McGowan, 1995) p.323."

Goal-4: "Total Quality Management (TQM), with its emphasis on the organizational and socio-behavioral aspects of quality improvement, can add to existing research on systems quality management (Ravichandran & Rai, 1999) p.121."

Goal-5: "Researchers and practitioners have suggested that Total Quality Management (TQM) offers an effective approach to manage quality in the context of systems development (Ravichandran & Rai, 2000) p.382."

4 EMPIRICAL RESEARCH AND CASE STUDY ON OTHER FACTOR OF QUALITY MANAGEMENT

Four factors mentioned above interacts each other and has big impact on quality management. However, one more factor needs to be considered for the sake of better performing of quality management. This factor, unlike other factors, neither a quality technical approach nor a management goal, is something you must obey with and subject to. This factor is called standard.

Standard, as its name, is a norm. The definition of standard is "an idea or thing used as a measure, norm, or model in comparative evaluations". It presents a level of quality in no matter industries or organizations. There are tens thousands of standards all over the world. They played multiple roles such as regulating industries, normalizing services, and even being a symbol of qualities.

ISO (the International Organization for Standardization) is an organization that develops and publishes International Standards. There are almost 20000 ISO international standards issued and they cover all fields such as: Sustainable development, Food, Water, Automobile, Climate change, Renewable energy, Services, Health and other traditional industries. More and more consumers trust ISO more than multifarious advertisement thus forcing companies pursuing the ISO certification.

We now understand the importance of standard. However, as mentioned before, there are huge numbers of standards in the world; their authority and scope of application are different. A good quality management will choose the proper standards to help organization accomplish its ultimate goal.

To help audience better understand the importance in quality management, two cases will be introduced in the following:

Case 1: HM730—the missing jet from Malaysia

There is a Boeing 777 airplane disappeared from its air route on Mar 8th, 2014. It belongs to Malaysia Airlines and is reported hijacked by its captain. This event is seemed as a conspiracy since there are too many irregular reactions from both Malaysia Airlines and Malaysia army and there are too many abnormal phenomenons that cannot be well explained by current information. However, during the investigation, a risky issue is exposed to public: Two stolen passports used on this flight. This implies that Kuala Lumpur International Airport (KLIA) has a very serious safety issue.

As one of the largest international airport in Malaysia, KLIA is a very important transportation hub in Southeast Asia. Everything in this airport is progressive: word class equipment, advanced management and thoughtful service. The premium infrastructure and professional management lead to a high security level. However, how did two passages pass through security check with stolen passport? After investigation, the conclusion is this airport used a degraded security standard. Instead of using Interpol (International Criminal Police Organization) data base, KLIA use its own security system. Their system can only verify the authenticity of passport but check if it was stolen or not. A small leak will sink a great ship. An improper security standard makes an airline company and airport suffer the loss and makes passengers encounter danger.

Case 2: Chinese tea—facing export challenge

China is the world largest tea production country. Tea culture is becoming one of the symbols of China. There are lots of famous Chinese teas well known and exported to the world such as: Lungching Tea, Biluochun Tea, Tat-Kuan-Yin Tea, Red Robe Tea, Yunnan Puer. However, Chinese teas are involved into several negative reports. 17 kinds of pesticides were found in Chinese tea products. Pesticides such as Methomyl and Endosulfan which were found in Chinese tea have been identified high acute toxicity by The World Health Organization (WHO) and have been banned by globally. Chinese tea sellers are facing extremely challenge in their European and American market.

Tea culture as a symbol of China has a long history since Song Dynasty. There is a deep-seated concept in Chinese mind that tea has function of refreshing mind and eliminating toxin. Therefore, tea is a favorite drink in china and its heat gradually sweep around the world. Since China has a vast territory and has various kinds of tea, it becomes the world largest tea export country. Tea industrial chain rise in response of the huge demand from worldwide. Advanced management approach and efficient marketing technology were implemented into this industry. Instead of have their tea planting bases, those famous

tea distributors procure tea leaves from small farmland. One reason is reducing expense; another reason is traditional farm method will keep original taste of tea.

Tea flower and leaf is also favor by insects. Along with the global warming effect, the tea farm is overrun with insects. Traditional farm method is challenged by climate changing. So tea farmer can do nothing but spray and spray. Most of the tea distributors are certificated by QS which is the food safety certification of China. However, the QS certification standard is not as high as ISO and even much lower than European standards. Chinese distributors, therefore, are not qualified to be the tea vendor in most of the European marketing any more. This change forces Chinese distributor paying a bitter price. To be qualified by standards, it may require farmers spend more resources to accordance with those criterions and may require fees to maintain the certification. Compared with market potential, those upfront expenses are worthy. And if at all, compared with the bitter price of lost market share, those upfront fees can be ignored. Researchers also found the impact of standard on China's tea export. "The results also show that China's tea exports have been significantly restricted when importing countries increase coverage of tea safety standards concerning regulatory pesticides (Wei, Huang, & Yang, 2012) p.253."

5 New model forming

There are several additional factors that may be tied to our topic. Since quality management is such a major topic that could related to and affect by many factors and their sub factors, we will screen them by following procedures: 1. Collecting 2. Narrow down 3. Ranking

Person Related Criterion Other Philosophy Customer satisfaction Employee Reputation Employee education and social Teamwork effect Quality Employer-employee quality Leadership Attitude Loyalty Communication Being ethical Work values **Ouality** Management Quality Organizationa Management techniques perception Change in organizational culture Empowerment Employee Cross-functional Organizational Employee involvement commitment integration Organizational Methodology

Factors Affect on Quality Management

Figure 3 Factors affect on quality management

Based on figure above, it is obvious that quality management is affected by many factors. Those factors can be categories as person related, organizational, methodology, criterion and others. More or less, those factors are important to quality management decision. According to studies into this paper, 5 most important factors are selected and built into a scientific model.



Figure 4 Quality management and its 5 factors

6 CONCLUSION

Through the review of former literatures, some points of views are derived. Factors that affect the performance of quality management have been identified. Those factors mentioned in this paper will be parameters of organization performance for those companies who deemed quality is the crucial element in its organizational strategy. Competitiveness will be derived from high quality corporate output. Quality management as a new concept and useful tools has been wildly implemented into many fields. This paper was trying to find out factors that have big impact on quality management, thus, helping organizations and individuals understanding how to take advantage from it as much as possible.

Quality management has been identified as an important tool in modern management system. It has positive impact in not only industry but also in education and non-profit organizations. Moreover, quality management also helps organization to teamwork building, system developing, strategy forming and social behavior regulation. Quality management has been wildly implemented into many fields, thus, many factors may affect on the performance of quality management. Through literature reviews and case studies, five major factors have been identified and discussed. Those factors are: management style, leadership, employee involvement, customer satisfaction and quality standard.

Management style is generally categorized as promotion, operation and inspection. It affected by many factors such as ethics, region, culture and experience. Other factors also lead success management style such as decision-making responsibility, organizational structures. The adoption of correct management style will lead a success quality management. Based on studies above, leadership has its power on affecting quality through both product and service in business. It helps organization balancing the performance of improvement and the limitation of resources. Leadership is not a skill for leaders and managers, it is also a skill that followers should understand and study with. Rather than a goal, employee involvement is a useful tool for team work building, commitment forming, and target accomplishment. It will help employee to form a positive attitude to their work. For the long-term development of organization, employee involvement is necessary and important. Another factor is customer satisfaction which can be planted into all industries. It will not only bring long-term profit for business, but also increasing employee intrinsic motivation and enhancing customer loyalty. It is a reflection of organizational strategy and an advertisement of company performance. Besides of those factors, quality standard is also important. Through case study, even companies have advanced management style, adopting mature leadership and employee involvement, and customer satisfaction oriented, lack of emphasizing on quality standards will also lead a loss of market share and loss of competitiveness. Therefore, those five factors have interactions on quality management. And those dependent factors and independent factor played dramatic roles into the success of modern business.

REFERENCES

- [1] Anderson, J. C., Rungtusanatham, M., & Schroeder, R. G. (1994). A Theory of Quality Management Underlying the Deming Management Method. *The Academy of Management Review*, 19(3), 472-509. doi: 10.2307/258936
- [2] Apte, U. M., & Reynolds, C. C. (1995). Quality Management at Kentucky Fried Chicken. *Interfaces, 25*(3), 6-21. doi: 10.2307/25062008
- [3] Benson, P. G., Saraph, J. V., & Schroeder, R. G. (1991). The Effects of Organizational Context on Quality Management: An Empirical Investigation. *Management Science*, *37*(9), 1107-1124. doi: 10.2307/2632329
- [4] Birch, N., & Pooley, J. (1995). Changes in Russian Quality Management Practices from 1989 to 1992. MIR: Management International Review, 35(3), 219-239. doi: 10.2307/40228274
- [5] Caswell, J. A., Bredahl, M. E., & Hooker, N. H. (1998). How Quality Management Metasystems Are Affecting the Food Industry. *Review of Agricultural Economics*, 20(2), 547-557. doi: 10.2307/1350007
- [6] Csizmadia, T., Enders, J., & Don, F. W. (2008). Quality Management in Hungarian Higher Education: Organisational Responses to Governmental Policy. *Higher Education*, *56*(4), 439-455. doi: 10.2307/40269208
- [7] Hackman, J. R., & Wageman, R. (1995). Total Quality Management: Empirical, Conceptual, and Practical Issues. *Administrative Science Quarterly*, 40(2), 309-342. doi: 10.2307/2393640
- [8] Hyde, A. C. (1992). The Proverbs of Total Quality Management: Recharting the Path to Quality Improvement in the Public Sector. *Public Productivity & Management Review, 16*(1), 25-37. doi: 10.2307/3380803
- [9] Johnson, E. L. (1968). Economics of Water Quality Management. *Journal (American Water Works Association), 60*(10), 1122-1128. doi: 10.2307/41265190
- [10] McGowan, R. P. (1995). Total Quality Management: Lessons from Business and Government. *Public Productivity & Management Review, 18*(4), 321-331. doi: 10.2307/3663055
- [11] McNabb, D. E., & Sepic, F. T. (1995). Culture, Climate, and Total Quality Management: Measuring Readiness for Change. *Public Productivity & Management Review, 18*(4), 369-385. doi: 10.2307/3663059
- [12] Mills, A. E., & Rorty, M. V. (2002). Total Quality Management and the Silent Patient. *Business Ethics Quarterly, 12*(4), 481-504. doi: 10.2307/3857996
- [13] Ravichandran, T., & Rai, A. (1999). Total Quality Management in Information Systems Development: Key Constructs and Relationships. *Journal of Management Information Systems*, *16*(3), 119-155. doi: 10.2307/40398447
- [14] Ravichandran, T., & Rai, A. (2000). Quality Management in Systems Development: An Organizational System Perspective. *MIS Quarterly*, *24*(3), 381-415. doi: 10.2307/3250967
- [15] Schonberger, R. J. (1992). Is Strategy Strategic? Impact of Total Quality Management on Strategy. *The Executive, 6*(3), 80-87. doi: 10.2307/4165080
- [16] Swiss, J. E. (1992). Adapting Total Quality Management (TQM) to Government. *Public Administration Review*, *52*(4), 356-362. doi: 10.2307/3110395
- [17] Wei, G., Huang, J., & Yang, J. (2012). The impacts of food safety standards on China's tea exports. *China Economic Review*, 23(2), 253-264.