

Impact of adopted Quality Management on a business model in globalized economy

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Abstract.

Research background: Changes have become an important topic of discussion among enterprises making it a top priority, especially in addressing sustainability concerns. No other issue is as important as sustainability from the point of globalization. Discussion is about to work intensively towards reinventing existing business models and integrating some methods to stay competitive and profitable. It requires an updated management capability not only through the modernization of processes, but also the creation of a new level of value creation within the company. The Quality Management System (QMS) can be used as a tool for reconstruction of the business activities and creation of new innovative ideas in the company, which comply with changing customer preferences, revenue mechanisms, and, finally, processes and value chains.

Purpose of the article: This research aims to analyse the transformation of a business model which is affected by implementation of the Quality Management system and to find out how it influences the sustainability of a business model.

Methods: In this research the authors used content analysis method with inductive and deductive approach as well as methods of selection and survey of respondents and appropriate quantitative methods to process the obtained data.

Findings & Value added: The results drawn from this research provide academics and practitioners with a better understanding of impacts that an adopted QMS have on business model dimensions within an enterprise. Findings of the research show whether these impacts aid them in becoming more sustainable. This knowledge can then be applied to strategies and management skills for the purpose of achieving better modelling results.

Keywords: *Business Model; Quality Management; transformation; sustainable business models*

JEL Classification: *O32; Q01; L15; L26; L25; L22*

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1 Introduction

On the one hand globalisation positively influences a business model of an international operating company by making it possible “...to access cheaper labour and material” [1]. On the other hand, reliance on globalized resources makes business managing much more dependent on factors that are outside of business owner's control.

In today's complex and changing business environment, enterprises must carefully develop their business strategies to gain a competitive advantage in the long term. The concept of business sustainability is based on long-term thinking, not a short-term perspective. The dynamically changing world economy creates new needs in both the theoretical models of management and in the practical discussion related to the perception of business [2]. Moreover, it is essential to skilfully use different methods and concepts of management to ensure the continuity of business. “*Companies need to design their new business models within the value network in their relations with supply chain members and customers*” [3]. Consequently, sustainable business models, in their essence, support companies' effectiveness and contribute to their stable, sustainable functioning in the difficult, ever-changing market. Changes force companies to rethink their operational business models more frequently and fundamentally, as innovation based solely on new products and aimed at local markets is no longer sufficient to sustain competitive and to survive. To remain relevant in the current market, or in other words to stay sustainable, it is important that the company adapts its business model to the changing conditions. Sustainable development is development that meets the needs of the present.

Quality Management System (QMS) refers to the incorporation as a multidimensional concept includes business strategies, financial returns, customer's satisfaction, stakeholder's interests, internal process and the human factor [4]. The main benefits are *the “improvement tool of problem solving, waste reduction, improvement in internal communication and increase in productivity”* [5]. Given the strategic nature of ISO standards implementation, the question is whether ISO management systems can be used to improve business modelling practices and sustainability of a business model?

The aim of the research is to analyse the transformation of business models in construction, manufacturing and service industries affected by implementation of the QMS and to find out how it influences sustainability of a business model. In order to achieve the goal, there were tasks set: to study the theoretical aspects of QMS, its implementation prerequisites, business modelling and sustainability determinants as well as to define effects of QMS on existing business models in the sense of sustainable entrepreneurship.

2 Methods

Various methods were used in the research: the theoretical part consists of the scientific literature analysis. In addition, a survey of Latvian SMEs' representatives from construction, manufacturing and service industries was conducted. Survey respondents rated factors that were affected by the implementation of QMS in their business models using the points from 1 to 10, the degree of significance was determined for each factor. The data are presented in the form of diagrams and tables. The general set (683) consists of micro, small and medium-sized enterprises, which use the QMS in their work. It consists of construction enterprises – 170 units or 25%; manufacturing enterprises - 122 units or 18% and service providing enterprises - 391 units or 57%. Of all the responses received, 327 questionnaires were useful for further research. A general set may have a sample set of 312 units, if the confidence level reaches 95% and error limit is not less than 4.1% [6,7]. The 327 received responses were considered to be sufficient to find answers to the most important questions of this research. Elements that make up the quantitative composition of the research participants are revealed

in the questionnaire, but qualitative composition is determined using data revealed by the respondents about themselves. Mostly they are entrepreneurs between the ages of 20-30; women (54.3%), men (45.7%), the share of construction representatives is 33%, of service representatives - 40.7% and of industry representatives - 26.3%. Distribution of work experience of the surveyed representatives: up to 1 year: 49%; 1-2 years: 23.9%; 2-5 years: 39.1%.

3 Results and Discussion

Today, the socio-economic and technological growth of each country is determined by its competitiveness, which integrates into the ability of local companies to sell their products in domestic and foreign markets. Technological development and growth of micro, small and medium-sized enterprises are largely subject to the challenges of economic globalization. Latvia's accession to the political and socio-economic system of the European Union, as a Each economic operator must take care to maintain and/or increase the competitiveness of the owned company, using the knowledge, skills and experience at its disposal, as well as using other legally appropriate techniques.

Quality management is a concept of customers and suppliers working together for mutual benefit and competitive advantage for both of them. Sustainability must extend into product and service quality to create customer satisfaction, low cost and continuous improvement opportunities [8]. Total quality is the key objective of every industry in present dynamic and intense competitive business environment [9] and offers concrete operating improvements as goals for employee participation and tools for achieving those goals. The adoption of ISO standards is equivalent to ensuring the implementation of efficient, proven practices. It demonstrates a positive impact of the quality system certification in industrial performance through internal restructuring procedures, development of the internal customer concept [10]. For others, these systems have a debatable impact, representing a marketing tool that may lead to negative consequences within organisations. Despite the numerous benefits there are obstacles in its successful implementation, which concern also demands for time, money, excessive documentation, resources and effort [11]. These factors undermine the standard's efficiency and increase the risks to its use. In fact, ISO quality system certification has been widely applied around the world, but with mixed success [10]. QMS refers to the incorporation of the triple bottom line objectives into a company's operational practices; it is a multidimensional concept which includes business strategies, financial returns, customer's satisfaction, stakeholder's interests, internal process and the human factor [4].

Business modelling takes central stage due to technological development that occurs in business. A clear statement of the business model enables a company to acquire a robust understanding of what it is seeking to achieve and the associated threats and opportunities [13]. Thanks to modelling, a clear picture of processes, relationships, dependencies and possible risks in the modelled area can be obtained, and the information can be used to timely develop alternative scenarios in order to maintain a stable position on the market, to increase the competitiveness of a company or to reduce the identified risks. The business model is considered to be not just a competence of the company management, but a role-playing game involving all company's employees [14]. A business model is a logical and contemplated interplay of company's decisions, business activities and participants, which describes the place, the time and the reason of business [15]; the benefits for customers and partners; the ways in which customers and partners benefit [16]; the mechanism of service creation and participants in its provision [17]; the way in which the benefit translates into profit [16]. Business modelling can be considered as a permanent process that enables to react timely to the changes and as a tool, that assist entrepreneurs to make sense of the management choices they face [17].

For a pillar of sustainability to be strong it must answer these questions with a yes: 1) Can it be sustainable? 2) Does it well support the goal of the system? Sustainability is a business approach for creating long-term value by taking into consideration how a given organization operates in the ecological, social and economic environment [18]. However, it requires business organizations to integrate sensitivity to the dimensions of sustainability in their decision-making models. There is no “one right solution” in sustainability. The best solution depends on the ambitions and stakes of each company. There are a few useful actions for all management teams to improve sustainability practices: 1) aligned strategy and sustainability; 2) addressed compliance, which often relates to regulations, human rights and labour responsibility. Investors increasingly shy away from compliance risks. 44% of them say that they divest from companies with poor sustainability performance; 3) proactive and not reactive acting and development of contemporary strategies [19]; 4) ensured transparency as a pre-condition for assessing and improving sustainability practices. [19] and 5) engaged board. 86% of respondents in a survey of BCG agree that boards should play an active and strong role in sustainability. But, only 42% report that their boards are substantially engaged [19]; 6) engaged company’s ecosystem: collaboration is critical for efficient sustainability practices, particularly in solving crises and in shaping broader solutions; 7) broadly engaged organisation [18]. It means, that sustainability has to be considered during every decision made at the company.

3.1 Impact of QMS on business models in construction sector

The arithmetic mean of the answers provided by the respondents operating and accredited in the construction sector is included in Table 1.

Table 1. Impact of QMS on business models in construction sector

Aspects	Processing results						
	Min	Max	Mx/Mn	Mean	Median	Mode	SD
Increasing customer attraction	7	10	1.43	8.22	9	8	0.87
Meeting quality standards	4	7	1.75	5.84	6	5	1.24
Increasing exports	2	5	2.50	3.37	3	3	0.96
Rising income	5	8	1.60	6.42	7	5	0.83
Increasing profits	4	7	1.75	5.94	6	5	1.32
Increasing productivity	3	6	2.00	4.11	4	3	0.76
Rising profitability indicators	3	7	2.33	3.88	5	4	1.39
Efficiently becoming processes	3	6	2.00	4.23	4	3	0.94
Modernisation of processes	2	5	2.50	3.95	3	3	1.12

Managers and/or owners of SMEs in the construction industry are convinced that QMS facilitates customer acquisition. Customer orders are the most important indicator of the company's operating demand, which supports it by creating a long-term relationship with customers, which also results in an increase in income and profit. “Attraction of customers” as an aspect in the survey has received the highest rating. Customer complaints about the low quality of construction are still a topical issue and work on the quality is still needed as well as analysis of reasons. The low compliance level of construction products is indirectly indicated as well - mode does not exceed 5 points. This indicates that the quality system is not being fully used and is mainly used to participate in tenders. It was found that the impact

of QMS on the volume of exported products, profitability, modernization of construction processes and productivity in the construction sector was assessed as very low and indicates that the impact of QMS on the company's long-term competitiveness and overall sustainability is weak in general. The answer should be found in the level of quality understanding and the role of QMS among the representatives. The other answer could be, that *“small firms are more likely to symbolically adopt ISO, whereas large firms are more willing to undertake a substantive implementation of this environmental standard”* [20]. Of course, there could be also *“a lack of clear and systematic treatment of environmental variables”* as a reason. [21].

Evaluating the information obtained on further questions, it should be noted that customers of construction companies are very interested in the QMS guidelines, however, the usefulness of QMS in company's competitiveness is assessed as very low (Table 2).

Table 2. Impact of QMS on business models in construction sector I

Aspects	Processing results						
	Min	Max	Mx/Mn	Mean	Median	Mode	SD
Meeting customer quality demands	5	8	1.60	6.12	7	6	0.38
Declining number of complaints	5	7	1.40	5.84	6	6	0.32
Use of guidelines	3	6	2.00	4.25	4	4	2.26
Customer interest on manual	7	10	1.43	8.31	8	8	2.01
Better managed external risks	3	6	2.00	4.48	4	5	0.96
Decreasing internal environment risks	2	6	3.00	3.28	4	4	0.62
More satisfied customers	5	8	1.60	6.18	6	6	1.37
Sustainability perspective	5	7	1.40	6.15	6	5	1.79

Aspects of risk reduction in the company's internal environment are assessed as relatively low. The statement that the QMS guideline could be useful in workplaces of employees in various production processes is slightly higher. These results largely reveal the peculiarities of the construction sector activities; point out possible shortcomings and weaknesses of QMS, its implementation and maintenance, as well as the Quality Standard itself.

3.2 Impact of QMS on business models in manufacturing industry

Representatives of the industry appreciate the impact of QMS on the increase in customer attraction. It means, that QMS has a positive effect on customer and partner dimensions of the business model, promoting its development. The arithmetic mean of the responses is included in Table 3.

Table 3. Impact of QMS on business models in manufacturing industry

Aspects	Processing results						
	Min	Max	Min	Mean	Min	Mode	Min
Increasing customer attraction	7	10	1.43	8.57	9	10	0.34
Meeting quality standards	8	10	1.25	9.23	9	10	0.28
Increasing exports	7	10	1.43	8.92	9	10	0.39
Rising income	6	10	1.67	8.26	7	8	0.53

Increasing profits	6	9	1.50	7.97	8	8	0.47
Increasing productivity	5	8	1.60	6.14	6	5	0.94
Rising profitability indicators	5	7	1.40	6.26	6	5	0.86
Efficiently becoming processes	5	7	1.40	5.88	6	6	0.73
Modernisation of processes	6	10	1.67	8.25	7	8	1.24

Compliance of products with quality standards is assessed even higher. This fact shows that the QMS mechanism in the company's model ensures the adjustment of quality standards and positively affects the reaction of external environment, resulting in an increase of customers. The logical effect of the above is an increase in exports due to the fact that QMS is also recognized as a known standard abroad. The modernization of company's processes indicates that processes are analysed, improved and meet the requirements of the time. This indicator also clearly indicates a positive performance of the company in the context of sustainability.

Efficiency of processes has been assessed more cautiously, indicating shortcomings in the company's process management work. This fact is also confirmed by the average growth of the company's profitability and productivity, as the resources used directly affect the above indicators. The authors believe that this type of research also gives companies the opportunity to assess the impact of QMS and review priorities in working with the standard in order to devote more work to improving low or medium performances. It also emphasises management, evaluation and the review of procedures to ensure continuous improvement consistent with planning to achieve customer and collaborator satisfaction [22, 23].

The assessment obtained from the respondents in the next group of questions about certain regulatory aspects of QMS and their impact is provided in the Table 4.

Table 4. Impact of QMS on business models in manufacturing industry I

Aspects	Processing results						
	Min	Max	Min	Mean	Min	Mode	Min
Meeting customer quality demands	8	10	1.25	9.26	9	9	0.27
Declining number of complaints	8	10	1.25	9.53	10	9	0.22
Use of guidelines	5	8	1.60	6.27	6	5	0.59
Customer interest on manual	5	9	1.80	6.38	6	7	0.78
Better managed external risks	6	9	1.50	7.23	7	7	0.78
Decreasing internal environment risks	6	10	1.67	7.98	8	8	0.52
More satisfied customers	7	10	1.43	9.13	8	9	0.39
Sustainability perspective	7	10	1.43	8.83	9	8	0.45

On the one hand, respondents rated comparatively low that the manual is used for the performance of work duties; customers and other cooperation partners are interested in the QMS manual. On the other hand, the aspect of quality, which supports companies on the way of satisfying customer needs and requirements, is relatively highly valued. This indicates a positive impact of QMS on the company's performance in the external environment and the reaction of the external environment to the company. This is also confirmed by the customer satisfaction assessment and certifies the positive impact of QMS on the operation of the model in the customer and partner dimension. Consequently, respondents' assessment of the

company's sustainability is high and indicates the right choice for the company to stabilize the operation of the business model using QMS.

Summarizing the results, the authors would like to note the positive impact of QMS on the company's operations in terms of customer attraction, customer satisfaction, customer quality requirements. Process management is an aspect that has been highly addressed in companies, but points to shortcomings in the context of process efficiency. This would be additional work that each company would have to work on. Development of a high corporate culture contributes to its positive impact on the external environment and its feedback from outside. These aspects can be considered as facilitators of the company's sustainable operations.

3.3 Impact of QMS on business models in service industry

The assessment of QMS on the service industry is hampered by the fact that provided services differ significantly, from simple house cleaning services to complex medical and information technology services. Due to the limitation of the study, not all aspects of product compliance are taken into account. The arithmetic mean of the attitudes expressed by representatives of SMEs operating in the service sector, is shown in Table 5.

Table 5. Impact of QMS on business models in service industry.

Aspects	Processing results						
	Min	Max	Min	Mean	Min	Mode	Min
Increasing customer attraction	5	9	1.80	7.33	6	5	1.27
Meeting quality standards	4	8	2.00	6.27	6	6	0.94
Increasing exports	2	10	5.00	4.22	6	5	1.32
Rising income	6	9	1.50	7.24	7	6	1.28
Increasing profits	5	7	1.40	6.25	8	7	0.83
Increasing productivity	2	7	3.50	4.81	5	4	1.29
Rising profitability indicators	2	8	4.00	5.82	6	5	1.47
Efficiently becoming processes	2	7	3.50	5.17	5	5	1.12
Modernisation of processes	2	8	4.00	4.56	5	4	1.35

Results of the survey of service sector indicate a sceptical attitude towards QMS and its impact on the company's operations, its competitiveness in the market as a whole. Despite this scepticism, the increase in the number of customers is highly valued as well as revenue and the content and form of services are changing as a result of QMS. Thus, the changes have taken place with the introduction of QMS, however, the representatives of the companies do not consider them to be sufficient to ensure the sustainable operation of the company in the market. The biggest positive effect is related to the increase in income, followed by the increase in profit. These aspects are directly influenced by efficient management of processes, use of resources, management decisions, and active involvement of employees in the work of the company. This attitude can be explained by the local nature of the companies' activities and the resulting close relationships with customers and partners. "Knowledge acquired through external network relationships is widely accepted as one of the most important resources for a firm to be innovative" [24]. Service provider has to systematically change the content and form of the offered services, increasingly adapting them to the

perceptions of a particular customer. Such flexibility and adaptability only develop as a result of many years of purposeful work [25,26].

The quantitative evaluation of the second group questions in the calculated arithmetic mean is included in Table 6.

Table 6. Impact of QMS on business models in service industry I

Aspects	Processing results						
	Min	Max	Min	Mean	Min	Mode	Min
Meeting customer quality demands	7	10	1.43	8.25	8	8	0.52
Declining number of complaints	6	9	1.50	7.45	8	7	0.66
Use of guidelines	3	6	2.00	5.47	5	4	0.81
Customer interest on manual	5	8	1.60	6.62	7	6	1.33
Better managed external risks	2	7	3.50	4.15	5	4	1.29
Decreasing internal environment risks	3	8	2.67	6.23	6	5	1.48
More satisfied customers	3	10	3.33	6.88	7	6	1.55
Sustainability perspective	6	9	1.50	7.99	8	8	1.23

Thanks to the purposefulness of QMS, those working in the service sectors pay the greatest attention to the changing quality requirements of customers and related customer complaints. This is fully in line with the nature of this type of business content, in which the entrepreneur must take into account that the quality of service demand of each subsequent customer will be fundamentally different from the requirements and needs of another customer. The results indicate the unique nature of services, which is essentially a function of customer individuality. This is an objective phenomenon that businesses in these sectors have to reckon with. In general, it can be concluded that SMEs operating in the services sector expect more from QMS than it has provided them, especially regarding the unique nature of services.

In order to summarize the most important research results and focus on the components of the business model that change or do not change at all, the authors created a scheme with QMS impact factors and their manifestation in the business model and its sustainability determinants (See Fig. 1).

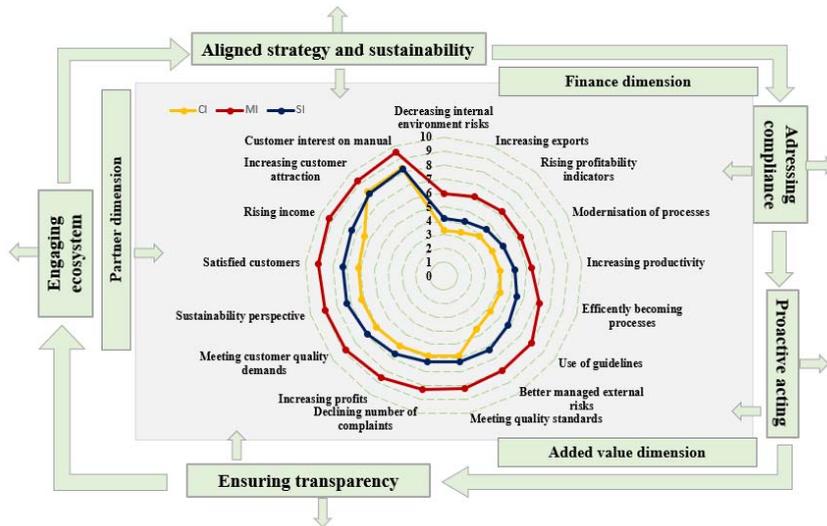


Fig. 1. QMS impact factors and their manifestation in the business model and its sustainability determinants

4 Conclusions

QMS has a positive effect on the customer and partner components of the business model, promoting its development in manufacturing industry. This fact shows that the QMS mechanism in the company's model ensures the adjustment of quality standards and products and positively affects the external environment's reaction and the increase in the number of customers.

QMS impacts company's performance in the external environment and the reaction of the external environment to the company. This also certifies a positive impact of QMS on the operation of the model in the customer and cooperation partner dimension.

The biggest positive effect of QMS in service industry is related to the increase in income, followed by the increase in profit. These aspects are directly influenced by efficient management of processes, use of resources, management decisions and active involvement of employees in the work of the company.

The attitudes included in the respondents' answers and the quantitative evaluation of the results provide new knowledge about the business aspects that change under the influence of QMS. The trend is the same in all sectors. In this way, it is possible to acknowledge that QMS has a direct and positive impact on the customer and partner dimension of the business model.

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