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The correlation between quality change management and process implementation with financial and non-financial market performance in south-eastern Europe companies

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ABSTRACT

This study aims to analyze the impact of overall quality management on company performance by examining the relationship between operational performance and customer orientation, commitment to top management, employee focus on the job, and process approach. The study employs a quantitative approach using statistical analyses, such as KMO and Bartlett's factor analysis, correlation analysis and t-tests to test the research econometric model. The results revealed a positive correlation between operational performance (financial and non-financial) and customer orientation with a coefficient of 0.164. Additionally, the study found a significant correlation between commitment to top management (coefficient p = 0.654), employees' focus on the job (coefficient p = 0.378), and process approach (coefficient p = 0.387). Overall quality management can be considered a strategic commitment of a company to create value for customers and owners based on quality. The commitment of top management to continuously improve the quality of all aspects of the business is crucial in achieving this goal. The study's findings suggest that companies can benefit from implementing overall quality management practices to improve their performance. By prioritizing customer orientation, committing to top management, and focusing on employee job satisfaction and process approach, companies can create a competitive advantage through their commitment to quality.

Contribution/Originality: The contribution of this study is its provision of empirical evidence of the positive relationship between overall quality management and company performance. The study also highlights the importance of customer orientation, top management commitment, employees' focus on their job, and process approach in achieving overall quality management.

1. INTRODUCTION

The quality of products, services, and processes is one of the most important factors that determine the vitality of a company in the long run. The strategic importance of quality stems from the role it plays in achieving competitive advantage and sustainable profitable growth. Companies that are leaders in their field emphasize quality as the most powerful competitive weapon, and the results of empirical research indicate a positive relationship between quality and profitability. Quality is one of the most important aspects for companies in adapting to changes in the environment, and quality management is an area within strategic management as a paradigm of modern enterprise management.

Overall quality management is considered a business philosophy whose fundamental assumption is that the cost of low quality is greater than the cost of developing processes that ensure high quality. Quality as a set of characteristics cannot be subsequently added or incorporated if it has not been taken into consideration during the development of a product or service. Research shows that 80% of quality problems are caused by the way the company is organized and managed. Therefore, it is important to set priorities and directions for quality improvement within the strategic planning process. Looking at a company as a set of interdependent parts and improving the quality of each of them leads to improving the quality of business as a whole. Continuous improvement of the quality of all operations in a company enables the creation of value for customers and owners in the long run, which is a prerequisite for business sustainability and is the backbone of strategic management.

In this paper, section 2.2 considers overall quality management as a subsystem of strategic management, as the basic competence of a modern company is the effective formulation and implementation of a strategy. Overall quality management serves as a tool for strategic management, promoting a constant search for improvement opportunities and a commitment to implementing best practices. A holistic approach is necessary to involve a larger number of individuals in formulating and implementing planning decisions while ensuring that the goals are interconnected, harmonized, and viewed from various perspectives. Additionally, value management, as part of strategic management, continuously evaluates the impact of the strategy on the company's value, as the ultimate goal of a modern company is to create value for its owners.

The subject of research in the article is the analysis of the impact of overall quality management on the performance of the company. Although the influence of overall quality management on different types of business performance has been researched in foreign literature for more than thirty years, empirical research of this type has only appeared in domestic literature in recent years. Although overall quality management is a subsystem of strategic management, its impact on the performance of a company from the perspective of strategic management in the Republic of Kosovo is still insufficiently researched and analyzed.

The main goal of this research is to consider the impact of the implementation of overall quality management on the performance of a company. Specific goals can be derived from the primary goal thus defined. The first specific goal is to consider the impact of the level of implementation of overall quality management on company performance. The other specific goal is to consider the impact of certified compliance on the quality management system with the requirements of the ISO 9001 standard on a company's business performance. ISO 9001, the most widely adopted standard in the ISO 9000 family, establishes the requirements for a quality management system (QMS) and has been recognized as a valuable tool for organizations in enhancing their performance and achieving customer satisfaction (Jaber, Zaneldin, & Ismail, 2019).

2. LITERATURE REVIEW

2.1. Implementation of Overall Quality Management as a Process of Change in a Company

Modern business conditions require companies to quickly adapt to changing market needs, as well as to respond effectively to pressures, dangers, and opportunities that arise in the environment. Quality is one of the important aspects of adapting to changes in the environment, and quality management is an area within strategic management as a paradigm of modern enterprise management (Aquino, Silva, Melo, & Silva, 2017). It is created by management and must be part of corporate goals and strategies. Looking at a company as a set of interdependent elements, improving the quality of each of these elements leads to improving the quality of the business as a whole (Djojo & Lena, 2021).

Changes are occurring in almost all areas: customer needs and requirements, regulations, new technologies, new types of products and services, and new distribution channels. The industry is increasingly turning to products with high knowledge content, in which efficiency, not natural resources, is what creates success. With this in mind, it is clear that a company must adapt to changes in the environment to meet customer needs and attract quality

staff. In addition to reacting to changes, companies can only initiate changes. This ability to initiate change is a critical competence of a modern enterprise (Seetharaman, Raj, & Seetharaman, 2015).

The driver of any change is dissatisfaction with the current situation. Sources of dissatisfaction range from the desire to do things better to the need to get out of a crisis or prevent the collapse of the company. Dissatisfaction may arise from customer satisfaction surveys, customer complaint analysis, benchmarking, quality cost analysis, process analysis, or consideration of prestigious business excellence award guidelines and ISO 9000 standards. ISO stands for the International Organization for Standardization. It is a non-governmental organization that develops and publishes international standards for various industries and sectors, such as manufacturing, healthcare, technology, and services (ISO, 2021). ISO 9000 is a family of international standards that provides guidelines for a quality management system (QMS) and support organizations in meeting customer and regulatory requirements (Hoyle, 2019). Employees can discover the cause of a problem and review the existing ways of working. Overall quality management provides a platform for generating a healthy degree of dissatisfaction (Sadikoglu & Olcay, 2014).

Companies go through daily, incremental, partial, and continuous changes, but they are not enough to keep up with the environment, which leads to a decline in performance and a crisis. A crisis causes discontinuous changes, which are radical, intense, and comprehensive. Most changes in a company are imperceptible because they occur within the context of organizational culture (Abd-Elwahed & El-Baz, 2018). The company remains unchanged, but the cumulative impact of such changes may become significant over time. However, since changes occur successively, employees are rarely upset about it. Transformational changes occur when a series of external influences, such as loss of market share, the emergence of new competitors, or weak customer reaction to a new product or service, cause employees at all levels to reconsider their basic assumptions and accept the need for change. Change needs to start before a crisis occurs, while the company is still strong and has the resources to implement change effectively. However, when a crisis is already in sight, it is difficult, and sometimes impossible, to regain a competitive advantage (Lande, Shrivastava, & Seth, 2016).Changes in a company can occur by changing technology, changing organization, and changing the way they interact, which indicates that two drivers of change stand out – technology and organization. Aquino et al. (2017) classified changes as shallow or radical. Shallow changes are most often related to determining the right size, reorganizing jobs, changing competencies, etc., and the basic ways to achieve them are to increase sales and reduce costs. These changes aim to maximize profits while changing the strategic focus on cost and value. On the other hand, radical changes provide pervasive results, and they refer to the change of organizational structure and reengineering of business processes. They aim to achieve a greater degree of value creation for customers and owners, and thus a more lasting competitive advantage. Figure 1 shows possible change strategies (Sungkawati, 2020).

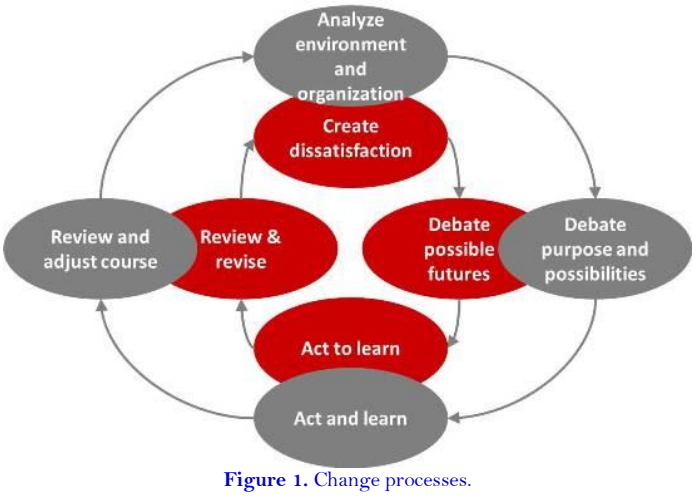

Figure 1. Change processes.

Analyzing the environment and organization (strategy 1) can provide insights into the current cost and value dynamics and identify areas for potential improvements or changes. Debating purpose and possibilities (strategy 2) involves exploring different options and considering alternative cost and value trajectories, which may include both shallow and radical changes. Acting and learning (strategy 3) emphasizes taking action, monitoring outcomes, and learning from the results. This strategy can be applied to both shallow and radical changes to assess their impact on cost and value. Reviewing and adjusting the course (strategy 4) involves evaluating the progress and outcomes of the change initiative, which can include assessing the achieved cost and value levels and considering adjustments or further changes.

Change management refers to the transition of a system from an existing state to a desired state. The change management process shifts the focus of top-level managers from control to learning. As this process progresses, the different roles of managers change from missionaries selling the basic idea, through consultants and coordinators teaching and supporting employees, to team leaders maintaining change. Managers and employees in a company often ignore the need for change and resist it. Resistance can be the initial reaction of individuals, as they do not recognize the need for change or are not ready to change the existing ways of working. On the other hand, sometimes changes are accepted in the short term, but individuals later return to their previous behaviors. In the case of implementing overall quality management, which introduces major changes in a company regarding the ways of working and employee behavior, both types of resistance are often present and paralyze this process.

Change management involves the following phases:

• "Thawing" is the current model of behavior. This is the stage in which the need for change becomes obvious to individuals. This process starts at the top of the company and requires the development of a new vision and strategy, as well as the mobilization of team members for change (Aquino et al., 2017).

• Development of a new model of behavior (introduction of change). In this phase, the person who has a leading role in the process of change management, the so-called "Agent of Change", establishes a new system of values. It is necessary to translate the strategy into operational terms and create an organizational infrastructure for the implementation of the strategy.

• "Freezing" the newly formed model of behavior (maintaining change). This phase refers to the transformation of a new model of behavior into norms. In that sense, it is necessary to direct the employees toward the strategy with the allocation of resources and a compensation system, where the application of the harmonized list has a special significance. A harmonized list refers to a standardized or unified list that ensures consistency and compatibility across different entities or systems. It is often used to establish a common understanding or classification of items, categories, or elements. In various domains and industries, such as trade, finance, healthcare, or regulatory frameworks, a harmonized list plays a crucial role in facilitating communication, data exchange, and decision-making processes.

Managing change requires an understanding of the situation in which the company finds itself, monitoring the process of implementing new methods, techniques, or strategies, as well as involving stakeholders affected by the change. Most of the obstacles in the implementation of overall quality management are related to inefficient change management (Aquino et al., 2017).

2.2. Quality as a Source of Competitive Advantage

The context in which companies operate today is characterized by frequent changes, and knowledge is becoming the main resource for gaining a competitive advantage. An enterprise gains a competitive advantage when it performs strategically relevant activities more efficiently and effectively than its competitors. According to resource-based theory, each enterprise has a different portfolio of heterogeneous resources. It is these differences that enable companies to achieve superior performance and gain a competitive advantage. Competitive advantage is sustainable when resources are difficult to imitate, such as knowledge, skills, experience, communication channels,

and partnerships. Powell lists some of the factors that make it difficult to create such resources (Alghamdi & Bach, 2013):

- It may be a long time before resources become capable of creating value.
- The resources of the leading competitor could have arisen in conditions that have ceased to exist.
- The value that a given resource produces is conditioned by the interaction with other resources.

It is difficult to understand the relationship between resources and the success of a leading competitor, or how resources produce superior value. Many leading companies have concluded that quality is the most important factor for achieving competitive advantage, which is why quality is considered to be a strategic resource. Research shows that companies whose products are of the highest relative quality have about three times more profitability than similar companies that produce lower-quality products. The high positive correlation between high profitability and high quality can be explained by the fact that customers are willing to pay a higher price for products of higher relative quality, which does not imply higher costs. Wolak-Tuzimek, Duda, and Sieradzka (2021) stated that the processes of market globalization will further affirm quality as a fundamental source of competitive advantage. Figure 2 shows the quality spiral that indicates the relationships and the path to quality improvement.

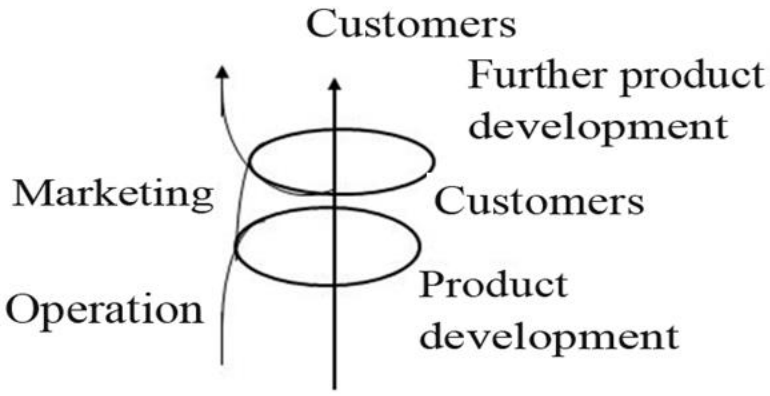

Figure 2. The spiral of progress in quality.

Successful strategies focus on quality and view it from the customer's perspective. By continuously satisfying customer requirements and expectations, the company builds a reputation for excellence. Customer satisfaction is a prerequisite for their loyalty, which is an important factor in the success of the company. That influence is reflected in the following (Ilinova, Dmitrieva, & Kraslawski, 2021):

- Retaining existing customers costs less than acquiring new ones.
- The longer the relationship with the customer, the higher the profitability.
- A loyal buyer will spend more money on the chosen seller.
- Approximately half of new customers come because of recommendations from existing customers.

Prayogo and Sohal (2016) explained that quality creates a competitive advantage through customer loyalty and reduced price sensitivity. Internal perspective should also be added to this, where there is an increase in productivity due to improved process quality, which is reflected in problem-solving, removal of parts of the process that do not add value, waste reduction, and rational use of resources. In this regard, low costs and differentiation have been identified as sources of competitive advantage. When a company focuses on one of the sources of competitive advantage in the mass market, strategies of low costs and differentiation appear. If it is a niche market, the appropriate strategies focus on costs and differentiation (Dahlgaard, Reyes, Chen, & Dahlgaard-Park, 2019).

Since the sources of competitive advantage cannot be detected by observing a company as a whole, it is necessary to systematically study its individual activities. A value chain is a tool for analyzing the internal environment of a company based on disaggregating the business to strategically relevant activities to identify the "value drivers" and "cost drivers". The strategy aims to maximize the use of value drivers and minimize the impact

of cost drivers through the adequate configuration of the value chain and the development of key competencies within individual activities. This procedure can identify places where quality improvement leads to increased value for customers in terms of increased utility or cost reduction. The value chain consists of five activities that directly affect value creation (primary activities), as well as four activities that indirectly affect value creation (support activities). Addae-Korankye (2013) presents a value chain consisting of nine basic activities. Additionally, the author provides an example of dividing one of these activities into several discrete activities.

Since every activity in the company contributes to the creation of quality, which cannot be "embedded" in the product or service at the end of the process, it is clear that a value chain is a powerful tool for analyzing opportunities for quality improvement. Thus, a higher level of quality can be ensured by purchasing better quality components, improving input control, more efficient inventory management, introducing the concept of just-in-time production, reducing variations in production, increasing the degree of adaptation of product characteristics to customer needs, and increasing availability.

3. METHODOLOGY

The subject of research in the article is the analysis of the impact of overall quality management on the performance of the company. Accordingly, the main goal of the research is to consider the impact of the implementation of overall quality management on the performance of the company. From the primary goal defined in this way, two specific goals were derived.

The first is to consider the impact of the level of implementation of overall quality management on company performance. Based on the goals of the research, the following projects have been defined as hypotheses:

H1: The level of overall quality management implementation is positively correlated with business performance.

H1a: The level of implementation of overall quality management is positively correlated with the operational performance of the enterprise.

H1b: The level of overall quality management implementation is positively correlated with the market performance of the company.

H1c: The level of overall quality management implementation is positively correlated with the financial performance of the company.

To achieve the goals of this research, and by relying on existing literature and using research models in this field, a research model was developed and tested on a sample of 141 companies in the Republic of Kosovo. A data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 20. Considering the benefits and the shortcomings of the applied research models, we propose a set of eight key factors of the success of overall quality management, a set of financial and non-financial measures of performance, control variables, and a set of statistical techniques to help systematically and comprehensively consider the impact of overall quality management on business performance. The assumed relationships between the variables are illustrated in Figure 2, with both financial and non-financial performance measures of business operations being used as dependent variables.

1. Non-financial operational performance measures (activity indicators):
   - Employee productivity.
   - Employee satisfaction.
   - Employee turnover.
2. Non-financial market performance criteria:
   - Market share.
   - Customer satisfaction.
   - Customer retention rate..
3. Financial performance criteria (profitability indicators):

- Rate of return on operating assets, which is obtained as a ratio of operating profit and the average values of business assets.
- Rate of return on equity, which is obtained as a ratio of net profit and the average value of capital.
- The rate of net profit on sales revenue, which is obtained as the ratio of net profit and sales revenue.
- The rate of operating profit in sales revenue, which is obtained as a ratio of operating profit and sales revenue.

The following were used as independent variables:

1. Factors that determine the level of implementation of overall quality management:

- Customer orientation.
- Commitment to top management.
- Focus on employees.
- Process approach.
- Continuous improvement.
- Information and analysis.
- Relationships with suppliers.
- Social responsibility.

3.1. Sample Description

In this research, we analyzed 141 companies with a valid ISO 9001 quality management system certificate in Kosovo from the manufacturing, trade, and services sectors. To ensure equal regional representation, the sample was formed by randomly selecting a proportionate number of companies from each city based on data from the Business Register by Cities. As there is no up-to-date database of certified companies available, the researchers verified the possession of the ISO 9001 certificate for each company selected through the random sampling process and only included companies with a valid certificate. Previous research has mostly compared the performance of sample companies with the performance of control group companies (performance of certified and non-certified companies, award winners and others, and so on). Such an approach calls into question the accuracy of the conclusions drawn since the groups of companies compared were not homogeneous.

Table 1. Sample structure by type of industry.

Type of industry	Frequency	Frequency percentage (%)
Production	95	67.4
Trade	16	11.3
Services	30	21.3
Total	141	100

Table 1 provides the information on the frequency and frequency percentage of companies in the sample categorized by type of industry. The sample consists of 141 companies, with the majority being production companies (67.4%), followed by service companies (21.3%) and shops (11.3%).

4. ANALYSES

4.1. Dimensionality and Validity of Instruments

To examine the grouping of individual variables into factors, a factor analysis was conducted. This statistical technique aims to identify the underlying structure of a large set of variables by grouping them into a smaller number of random variables known as factors. The factor model is based on the assumption that variables with high correlations can be grouped, while variables with weak correlations are grouped separately. Each group of variables corresponds to one factor, which explains the existing correlations. The Varimax raw rotation was used as the

rotation method, and the KMO and Bartlett tests were used to assess the suitability of the dataset for factor analysis.

4.1.1. Dimensionality and Validity of the Instrument: The Level of Implementation of Overall Quality Management

The level of implementation of overall quality management was determined based on a questionnaire consisting of 40 statements. Respondents were tasked with expressing the degree of agreement on a five-point Likert scale (1 = absolutely disagree, 5 = absolutely agree). Table 2 shows the percentage structure of the evaluation of individual statements within the key factors of overall quality management.

Table 2. The frequency of the main variables.

Customer engagement and satisfaction practices	1	2	3	4	5	Total
We strive to build partnerships with customers	0.0%	0.0%	0.7%	13.6%	85.7%	100.0%
We regularly research customer needs to adjust our offerings	0.7%	0.0%	12.1%	23.6%	63.6%	100.0%
We regularly measure customer satisfaction	0.7%	0.7%	12.2%	26.6%	59.7%	100.0%
We use customer comments to eliminate sources of problems and to improve quality	0.0%	0.7%	3.5%	26.2%	69.5%	100.0%

For the overall quality management implementation level, the Kaiser–Meyer–Olkin measure of sampling adequacy value is greater than 0.4, and the Bartlett's test of sphericity value is statistically significant (p = 0.087) (see Table 3).

Table 3. KMO and Bartlett's tests: The level of overall quality management implementation.

KMO and Bartlett tests		
Kaiser–Meyer–Olkin measure of sampling adequacy		0.353
Bartlett's test of sphericity	Approx. chi-square	345.816
	Df	14
	P	0.087

The values obtained indicate the justification for using a factor analysis. The factor loads, correlations between factors, and input variables are given in Table 4.

Table 4. Factor loads (Varimax raw factor rotation): Level of overall quality management implementation.

Customer-focused quality	Customer-focused quality management	1	2
Customer satisfaction measurement	We adjust our services based on customer feedback	0.782	0.583
Customer feedback utilization	We regularly measure customer satisfaction	0.764	0.542
Customer orientation	We use customer comments to eliminate the sources of problems and improve the quality of the process	0.613	0.738
Customer involvement in innovation	Customers are involved in the process of developing new products and services	0.712	0.614
Customer partnership development	We strive to build partnerships with customers	0.589	0.723
Management commitment to quality	Top management shows its commitment to quality	0.496	0.813
Resource allocation for quality improvement	Top management provides the necessary resources for quality improvement	0.587	0.836
Commitment to top management	Performance appraisal of managers and employees relies heavily on the quality of work	0.523	0.801
Quality-over-cost priority	Management prioritizes quality over costs	0.675	0.684
Non-conflicting quality goals	Quality goals do not conflict with others set by management	0.745	0.646

4.1.2. Dimensionality and Validity of the Instrument: Operational and Market Performance

Respondents were tasked with assessing the operational and market performance of the businesses relative to competitors using a five-point Likert scale (1 = significantly less, 2 = less, 3 = no difference, 4 = greater, and 5 = significantly greater).

As in the previous case, the value of sample adequacy (the Kaiser–Meyer–Olkin measure of sampling adequacy) is greater than 0.5, and the value of sphericity (Bartlett's test of sphericity) is statistically significant (p = 0.045), so a factor analysis in this case is justified (see Table 5).

Table 5. KMO and Bartlett's tests: Operational and market performances of the business in comparison to competitors.

KMO and Bartlett's test		
Kaiser–Meyer–Olkin measure of sampling adequacy		0.501
Bartlett's test of sphericity	Approx. chi-square	54.064
	Df	3
	Sig.	0.045

The factor analysis singled out two factors – operational performance and market performance – with high saturation and the elements they are comprised of (see Table 6).

Table 6. Factor loads (varimax raw factor rotation): Operational and market performances of operations in comparison to competitors.

Performance measure	Performance metric	1	2
Operational performance	Employee satisfaction	0.756	0.436
	Employee productivity	0.721	0.519
	Employee turnover	0.711	0.397
Market performance	Customer retention rate	0.885	0.887
	Customer satisfaction	0.723	0.723
	Market share	0.534	0.534

4.2. Hypothesis Testing

Pearson's correlation coefficient and t-test were used to test the hypotheses. After these analyses, a regression analysis was performed to establish the influence of the independent variables on the dependent variable. The following is a description of the hypothesis testing procedure.

H1: The level of implementation of overall quality management is positively correlated with the business performance of a company.

H1a: The level of implementation of overall quality management is positively correlated with the operational performance of a company.

Pearson's correlation coefficient examined a statistically significant relationship between the level of implementation of overall quality management and operational performance defined through eight factors – customer orientation, commitment to top management, focus on employees, process approach, continuous improvement, information and analysis, supplier relations, and social responsibility (see Table 7). The statistical significance of this test is below the limit value of 0.05, so it is concluded that the operational performance of the company is statistically significantly positively correlated with all factors of overall quality management. The correlations range from R = 0.164 to R = 0.654, which represents weak to moderately strong correlations. Based on the results, hypothesis 1a is confirmed.

Table 7. Relationship between the level of overall quality management implementation and the operational performance of the company.

Quality management practice	Correlation with operational performance	Operational performance
Customer orientation	R	0.164*
	P	0.021
Commitment to top management	R	0.654**
	P	0.000
Focus on employees	R	0.378**
	P	0.000
Process approach	R	0.387**
	P	0.000
Continuous improvement	R	0.449**
	P	0.000
Information and analysis	R	0.400**
	P	0.000
Supplier relations	R	0.367**
	P	0.000
Social responsibility	R	0.330**
	P	0.000

Note: R = Pearson's correlation coefficient; P = Statistical significance.
* Statistical significance at the level of 0.05; ** Statistical significance at the level of 0.01.

H1b: The level of overall quality management implementation is positively correlated with the market performance of the company.

Pearson's correlation coefficient was used to examine the statistical correlation between the level of implementation of overall quality management and the market performance of the company (see Table 8). The statistical significance of this test is below the limit value of 0.05, which indicates that the market performance of the company is statistically significantly positively correlated with all factors of overall quality management. The correlations range from R = 0.249 to R = 0.458, reflecting weak to moderately strong correlations. Based on the results, hypothesis H1b is confirmed.

Table 8. Correlations of the level of implementation of overall quality management with the market performance of the company's business.

Market performance		
Customer orientation	R	0.353**
	P	0.000
The commitment of top management	R	0.458**
	P	0.000
Focus on employees	R	0.328**
	P	0.000
Process approach	R	0.249**
	P	0.005
Continuous improvement	R	0.331**
	P	0.000
Information and analysis	R	0.347**
	P	0.000
Supplier relations	R	0.387**
	P	0.000
Social responsibility	R	0.362**
	P	0.000

Note: R = Pearson's correlation coefficient; P = Statistical significance.
** Statistical significance at the level of 0.01.

H1c: The level of implementation of overall quality management is positively correlated with the financial performance of the company.

Using Pearson's correlation coefficient, the statistical significance of the relationship between the level of management implementation of the overall quality and financial performance of the company was examined. The results of the analysis show the following (see Table 9):

- The rate of return on operating assets is not correlated with overall quality management factors.
- The rate of return on equity is statistically significantly positively correlated with focus on employees (R = 0.203, P = 0.023), continuous improvement (R = 0.195, P = 0.029), and social responsibility (R = 0.210, P = 0.017), while there is no statistically significant relationship with customer orientation (R = 0.081, P = 0.366), commitment to top management (R = 0.151, P = 0.095), process approach (R = 0.127, P = 0.127), information and analysis (R = 0.111, P = 0.115), and supplier relations (R = 0.169, P = 0.056).
- The rate of net profit in sales revenue is statistically significantly positively correlated with customer orientation (R = 0.176, P = 0.043), commitment to top management (R = 0.186, P = 0.036), process approach (R = 0.193, P = 0.029), continuous improvement (R = 0.184, P = 0.035), information and analysis (R = 0.195, P = 0.025), and social responsibility (R = 0.174, P = 0.044), while there is no statistically significant correlation with focus on employees (R = 0.162, P = 0.064) and supplier relations (R = 0.034, P = 0.694).
- The rate of operating profit in sales revenue is statistically significantly positively correlated with customer orientation (R = 0.261, p = 0.003), focus on employees (R = 0.212, P = 0.015), process approach (R = 0.189, P = 0.032), continuous improvement (R = 0.188, P = 0.031), information and analysis (R = 0.179, P = 0.04) and social responsibility (R = 0.172, P = 0.047). A statistically significant correlation was not established between the factors of commitment to top management (R = 0.163, P = 0.67) and relations with suppliers (R = 0.102, P = 0.244).

Based on the results, hypothesis H1c is partially confirmed because the level of overall quality management is not correlated with one of the four defined measures of financial performance. After the correlation analysis, those variables that proved to be statistically significant were first included in the univariate regression model, and after, the established significance levels in this model were included in the multivariate regression model. The aim is to establish the impact of overall quality management factors, individually and in groups, on the operational, market, and financial performance indicators of the company.

Table 9. The connection between the level of implementation of total quality management and the financial performance of the company's operations.

Dimensions of total quality management			Rate of return on equity capital in 2021	Rate of net profit margin in sales revenue 2021	Rate of return on businesses active in 2021
Customer orientation	R	0.119	0.081	0.176*	0.261**
	P	0.173	0.366	0.043	0.003
The commitment of top management	R	0.112	0.151	0.186*	0.163
	P	0.212	0.095	0.036	0.067
Focus on employees	R	0.127	0.203*	0.162	0.212*
	P	0.148	0.023	0.064	0.015
Process approach	R	0.105	0.137	0.193*	0.189*
	P	0.235	0.127	0.029	0.032
Continuous improvement	R	0.13	0.195*	0.184*	0.188*
	P	0.14	0.029	0.035	0.031
Information and analysis	R	0.14	0.141	0.195*	0.179*
	P	0.11	0.115	0.025	0.04
Supplier relations	R	0.025	0.169	0.034	0.102
	P	0.775	0.056	0.694	0.244
Social responsibility	R	0.159	0.210*	0.174*	0.172*
	P	0.067	0.017	0.044	0.047

Note: * Statistical significance at the 0.05 level; ** Statistical significance at the 0.01 level.
R = Pearson's correlation coefficient; P = Statistical significance.

The univariate regression analysis shows that each of the factors of overall quality management affects the

operational performance of the company, considering the odds ratio (OR): Customer orientation (OR: 0.183 (1.60–3.73), P = 0.00), commitment to top management (OR: 0.500 (0.45–0.87), P = 0.00), focus on employees (OR: 0.419 (0.26–0.60), P = 0.00), process approach (OR: 0.415 (0.28–0.66), P = 0.00), continuous improvement (OR: 0.449 (0.34–0.71), P = 0.00), information and analysis (OR: 0.400 (0.26–0.62), P = 0.00), supplier relations (OR: 0.367 (0.29–0.76), P = 0.00), and social responsibility (OR: 0.330 (0.18–0.55), P = 0.00). Statistical significance in the univariate regression model enabled the use of a multivariate regression model which shows that only commitment to top management makes a statistically significant contribution to the explanation of the dependent variable (OR: 0.453 (0.21–0.98), P = 0.00), i.e., the top management commitment factor explains 25% of the variance of the company's operational performance.

The dependent variable market performance of the company is statistically significantly affected by all factors of overall quality management: Customer orientation (OR: 0.353 (0.26–0.72), P = 0.00), the commitment of top management (OR: 0.458 (0.36–0.75), P = 0.00), focus on employees (OR: 0.328 (0.15–0.48), P = 0.00), process approach (OR: 0.249 (0.07–0.42), P = 0.00), continuous improvement (OR: 0.331 (0.17–0.53), P = 0.00), information and analysis (OR: 0.347 (0.18–0.50), P = 0.00), supplier relations (OR: 0.387 (0.29–0.70), P = 0.00), and social responsibility (OR: 0.362 (0.20–0.53), P = 0.00). In the multivariate regression model, two variables show a statistically significant impact on the dependent variable: Commitment to top management (OR: 0.426 (0.16–0.83), P = 0.00) and supplier relations (OR: 0.276 (0.06–0.66), P = 0.02). These two factors explain 21% of the variance of the business performance of a company variable.

When testing the impact of the level of implementation of overall quality management on the financial performance of the company, it was necessary to examine this impact on each measure of financial performance individually due to differences in the method of calculating the value of the measure. Three factors of overall quality management showed a statistically significant correlation with the dependent variable rate of return on equity. Therefore, the univariate regression model included the variables focus on employees (OR: 0.203 (0.02–0.37), P = 0.02), continuous improvement (OR: 0.195 (0.02–0.41), P = 0.03), and social responsibility (OR: 0.210 (0.04–0.39), P = 0.02). These three variables have a low individual percentage of the explained variance of 3%–4%, and when treated in the multivariate model they do not give a statistically significant contribution to the explanation of return on equity. Thus, although statistically significant, their impact on the dependent variable is small. In the univariate regression analysis, a statistically significant contribution to the explanation of the dependent variable net profit margin in sales revenue has the following factors: Customer orientation (OR: 0.176 (0.00–0.15), P = 0.04), the commitment of top management (OR: 0.186 (0.00–0.15), P = 0.04), process approach (OR: 0.193 (0.00–0.13), P = 0.03), continuous improvement (OR: 0.184 (0, 00–0.13), P = 0.04), information and analysis (OR: 0.195 (0.00–0.50), P = 0.12) and social responsibility (OR: 0.174 (0.00–0.12), P = 0.44). The individual percentage of the explained variance is low and ranges from 2% to 3%. In the multivariate regression model, no overall quality management factor shows a statistically significant effect on the variable net profit margin in sales revenue. Factors of overall quality management that showed a statistically significant contribution to the explanation of the dependent variable of profit margin in sales revenue in the univariate regression analysis are customer orientation (OR: 0.261 (0.02–0.13), P = 0.00), focus on employees (OR: 0.212 (0.01–0.10), P = 0.02), process approach (OR: 0.189 (0.00–0.09), P = 0.03), continuous improvement (OR: 0.188 (0.00–0.10), P = 0.03), information and analysis (OR: 0.179 (0.00–0.09), P = 0.04), and social responsibility (OR: 0.172 (0.00–0.09), P = 0.05). The individual percentage of the explained variance is low and ranges from 2% to 6%. In the multivariate regression model, no overall quality management factor shows a statistically significant impact on the variable of profit margin in sales revenue.

5. CONCLUSION

Competitive advantage is a prerequisite for creating value for owners, which is the ultimate goal of a

modern company and is a result of a good strategy. The importance of overall quality management from a strategic management perspective is reflected in its ability to provide distinctive competence, which is a strength of a company that is difficult to imitate. This implies the development and continuous improvement of key resources, including intangible assets and their adaptation to the company's needs and context. The generation of intangible assets is a complex and long-lasting process characterized by the growth of value during use, the impossibility of imitation and substitution, and the satisfaction of all criteria for strategic resources that enable the attainment of sustainable competitive advantage. However, competitive advantage is not only dependent on overall quality management, but also on the harmony between strategy, company aspirations, and the characteristics of the environment.

Based on the philosophy of overall quality management, prestigious awards for quality across the world have been established, as well as the ISO 9000 international standards. The goal is to use the model of business excellence and specific criteria to reward companies that continuously improve business quality. Considering that overall quality management is considered a kind of business philosophy, the awards for quality and standards from the ISO 9000 group represent a significant form of its materialization.

Differentiation, as well as lower cost strategies, allow for the maximization of value for customers and owners. The process of implementing the strategy is preceded by the phase of its evaluation, which determines the economic justification of the strategy in terms of value creation. Evaluation of the strategy includes an anticipatory type of control and requires the use of modern performance measures, which are based on cash flow and take into account the time value of money, as well as the cost of equity.

Performance measurement systems are essential for efficient enterprise management. They make it possible to set realistic goals and monitor their achievement, but they also provide valuable information on opportunities for improvement. The strategic importance of performance measurement is also confirmed by the ISO 9000 standards, which contain requirements related to monitoring, measuring, analyzing, and evaluating performance. Performance measurement involves the process of quantifying them, not only to show the success of the business in the past period, but also to identify key determinants that contribute to value creation. However, a traditional accounting performance measurement system can limit the process of quality improvement and give the wrong signals for continuous improvement. Therefore, the possibility of using modern performance measurement systems that allow better monitoring of various aspects of business is pointed out. These, in addition to financial systems, also include non-financial performance measures.

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