CORRELATION OF COMPANY PERFORMANCE WITH THE ADOPTED TQM MODEL OF DIFFERENT LEVEL AND SIGNIFICANCE IN IMPLEMENTATION

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Abstract: This paper discusses the method of performance assessment and analysis with technical and economic aspects related to the realization of products and services in the company where TQM is implemented. This complex control method is based on a heuristic (first phase), and an algorithmic model in other phases. The best solutions are selected based on the results of optimization and analysis of feasible variances of defined products and services, for which special consideration is given to capacities and conditions under which they will be manufactured and delivered product and realise services, as well as parameters will be monitored on the level of processes and achieved effects. The focus is on the importance factors, the company's ability with TQM and improved realization of defined plans.

Everything that has been set and achieved is related to the level of implemented TQM, so that special quality of this consideration is given by comparisons of effects (total company performance and marginal performances by parameters) in relation to available TQM as program and its performance.

According to the presented method, it is possible to report the best solutions of products of similar categories and different purposes which work in different operating conditions. The methodology presented here has a practically universal application for the optimal choice of resources (in accordance with the required level of competence of the company in terms of performing of specific programs) for the implementation of products and services and achieving high performance after their placement.

Key words: *TQM, KPIs, performance, product, variance assessment*
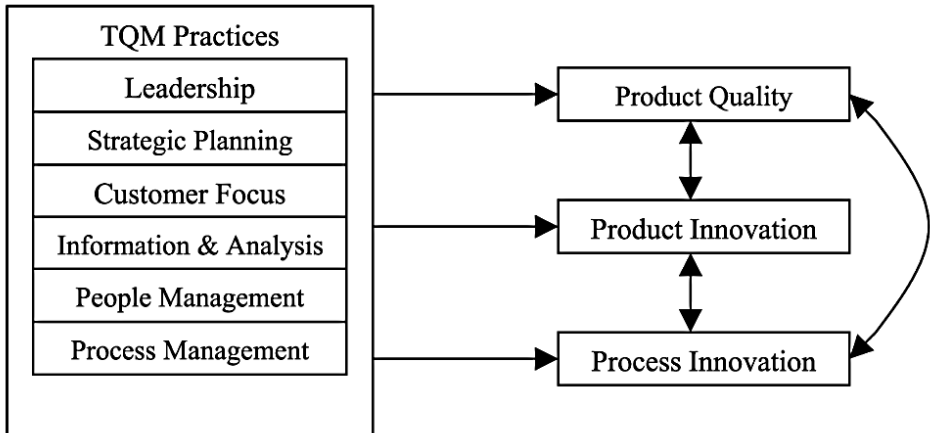
INTRODUCTION

The optimal organization of the company is accompanied by the establishment of the optimal combination of human and physical resources. That, as a rule, is achieved with TQM (Total Quality Management) which enables efficient functioning of the business system. The structure of the possible TQM concept is shown in Figure 1. TQM frame implies the requirements, work pacages, aims, activities for achieving the appropriate results and management techniques in accordance with advanced knowledge, technologies, processes, innovations and standard [1]

An additional increase in profits is the main motivator in the implementation of the TQM concept. However, when one considers the mandatory application of all aspects of the TQM concept in relation to the requirements of aligning technological and economic development with environmental protection and the creation of goods of interest for building a fairer society (it is clear that this inevitably leads to reduced profit) then the capitalist business model is no longer sustainable and thus calls the questioning of motivation for TQM. But, TQM is a quality model that remains the only comprehensive framework for establishing new standards in work and life that is contribute to the sustainability of economic and overall development of the economy and society by ensuring environmental integrity, fairer society and more balanced economic growth (Heleta, 2010).

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[1] https://www.slideserve.com/kalyca/upravljanje-kvalitetom (accessed: 15.03.2022)

After this aspects and dilemas, it is necessarily put focus on the customers and their satissfaction, and start to consider new concept TQM with complementary aspects as orientation on the team work, employees motivation and satisfaction, improving processes and straff education.

Figure 1. Structure of the TQM concept - theoretical research framework
Source: (Prajogo,I.D. and Amrik S. Sohal,S.A., 2002)

It is believed that at the beginning of the 21st century, total quality is still the best model of management for at the same time:

- longrange anticipating and creating the future of the organization;
- satisfaction and loyalty of the customer;
- organizational and technological improving of the organization;
- reducing costs, increasing productivity and profits;
- socially responsible business;
- long-term growth and development of the company which is harmonized with the environment.

All of the above should be related to the performance of companies that have implemented the TCM system in order to achieve the very good overall business results, measure them, format and create a basis for decision-making and future plans. Performances are everything what is company achieved in a certain period.

Preciselly identification of performances is going with order to assess existing achievements (in accordance with the set goals) and plan future goals and actions with the introduction of appropriate indicators and measures come into play here. Goals, performance and indicators are linked in order to measure performance or success of company (Morton-Benson, 1990).

1. MODEL OF ORGANIZATION WITH TQM SYSTEM

The TQM concept requires the participation of all employees in the realization of the company's business by improving the level of quality at virtually all levels of system operation, with relevant global programs and goals (Heleta, 2010).

With the TQM system, everything is important, at the level of the company and the environment, at the level of management and other stakeholders, with full respect to the market requirements and technical-market trends, etc. However, without motivated and stimulated people, more precisely all employees with appropriate education and skils that can be maximally expressed in works in the company, high performance in building the company's image through the achieved business results is not possible. TQM emphasizes this especially contribution to quality by all employees with appropriate training and motivation, who have an innovative orientation, work expertly and in teams, which achieve synergistic effects in the implementation of jobs, projects, tasks and activities.

The main goal of TQM is the achieving world-class products and services according to the market verification and customer satisfaction. TQM integrates technological, market, economic, organizational, social and ethical aspects of business. TQM is practically at the same time the top level of the concept of quality improvement coupled with the top level of the management concept (Heleta, 2010).

TQM is, more broadly, the need to improve knowledge, especially now that information has become a strategic resource of business, because it is the level of asociated organizations with technological unity and economic connectivity of society as a whole (Zahar Djordjevic, 2019).

2. COMPANY PERFORMANCE

The goals of the company determine the aspirations of the company in the process of realizing the vision and satisfying the mission of the company. Outputs are a condition for achieving the goals. Organizational performance represents the formatted performance or success of an organization that can be clearly communicated and can be understand by all stakeholders.

Performance must be expressed by some magnitude. Measuring performance and determining its value is in fact measuring and determining some particular or overall value of company success.

KPIs (Key Performance Indicators) should be linked to the company's strategic goals focused on: customers, market, finance, processes and people.

The definition of KPI can be written as: KPI is a measure that shows how well an organization or individual is doing in relation to the basic goals (look at them as signs). They show you where you are on your business journey and help you identify the path you need to take to achieve that business goals. KPIs are performance measures in relation to the set goals. If these are the most important performance measures, then these are the key performance or succes indicators.Targets are fixed and often numerically expressed (eg a 12% increase in sales), while KPIs are measures that expressed at a given time (eg a 14.5% increase in sales).

Relationships and functional dependencies clarify, educate and improve the development of KPIs. With digitally linked KPIs, data and decision-making in appropriate cycles, companies can align their current situational requirements with long-term strategic planning. "KPI Virtuous Cycle" has 3 key components and requires active inter-functional cooperation: 1-Data management; 2-KPIs; 3-Decision-making rights.

Key Performance Indicator of Services (KPIS) - show a way to realize significant performance improvements (there is also a phrase used as "dramatic improvements"), here specifically at transport services. KPIs are therefore a set of measures focused on those aspects of organizational performance that are critical to the current and future success of companies.

The success of the strategy is determined not only by the definition and documentation, but also by the implementation. KPIs (always is based on goals) has no reason to exist if it does not contribute to achieving the goal.

The needs are focused on real-time reporting but the interpretation of the results is a continue process.

Performance measurement system refers to a part of the control and management system of the company. KPIs development strategy is contained in the process of developing clear goals and key performance indicators that support the strategy. KPIs have goals and owners, and should be built so that the KPI provides evidence of meeting the goals. [2]

There are no official theoretical models for performance management, just as there is no universal template for selecting key KPIs. This can be found in "The KPI Mega Library: 36,000 Key Performance Indicators" (Rachad Baroudi, 2016), which clearly highlights the fact that the purpose of this guide is to provide the reader with quick and efficient access to the most appropriate key performance indicator (KPIs). In this guidebook, KPIs have been identified-defined at the level of 36,000 cases (previously, 17,000 KPIs), which are categorized in logical and alphabetical order. The main goal is to acquaint the user with the adequate and available KPIs that measure the performance of a particular industry, sector, as well as at the level of topics in international frameworks and functional areas (organization and functions, state institutional framework, international framework).

When an organization improves its processes, balances resources, structure, business policy and culture, then it has opened the way to TQM. Structure influences behavior, because if one wants to change behavior, one must change the structure so as not to hinder the entrepreneurial spirit.

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[2] https://www.aurostandard.org/blog/kljucni-indikatori-performansi-sta-sa-njima/ (pristup: 15.03.2022)

3. EXAMPLE OF PERFORMANCE OF THE COMPANY WITH ADOPTED TQM MODEL

This paper discusses the method of performance assessment and analysis with technical and economic aspects related to the realization of products and services in the company where TQM is implemented.

3.1. Methodological bases of problem consideration

This complex control method is based on the heuristic (first phase), and algorithmic model (in other phases). The performance of a company can be basically divided into four groups: financial, operational, employees or motivational performance, and development performance of the company.

KPIs can be considered as economic indicators (but with constrains) used to assess progress or the degree of compliance with important goals or critical success factors within an organization. The economic indicator is a basis for decision making (problem identification, presentation, information extraction), for control (target/actual comparison), for documenting important facts and relationships within the company, as well as for coordination (behavior management).

Constraints on the alert level help to detect trends in changes in processes and equipment before exceeding the defined limits in the company (Kovačević, 2019).

KPIs can be grouped into the following categories:

a) Interim key performance indicators (by internal order of the Director-General or the competent manager);
b) KPIs by derived from contract, or as compliance with new law, compliance with new standards, etc.;
c) KPIs by production units (partially realization of the first two types of orders at the level of profit centers).

Problems and solutions of transport, logistics and storage of materials in recent years are increasingly coming to the fore. The real needs had grown, so more and more serious requirements are being set in terms of logistical support for

production, requirements for reducing costs based on stocks, shortening production time and improving product and service quality.

It is necessary to ensure stable growth and development of specialized companies with a recognizable program identity and offer the market a new and better product or service.

3.2. Initiating a program and choosing a solution

The procedure, from the initiation of the program (first at the level of articulation and selection of ideas for a new product, tool, service, process etc.) to the design and selection of variants for implementation, is presented in detail in accordance with (Tomic, 2004). Due to the limited scope of the paper, the optimization concept will only be indicated.

Finding the extreme value (minimum, maximum) of the objective function – F, with appropriate constraints – G for independent variables – x, is defined on the basis of (1).

$$F^* = min\left\{[F(x), x \in X\;], X \in R^n\;, G_j \geq 0\;, (j = 1,2,...,m)\right\} \quad (1)$$

The conditions necessary for the problem to be solved refer to the continuity and differentiation of the represented functions. To solve many engineering optimization problems, Lagrange multipliers are used to determine the values of variables for which it is exist an extreme value, equations (2) to (4).

$$L(x) = F(x) + \sum_{j=1}^{m} \lambda_j\, G_j(x) \qquad (2)$$

$$\frac{\partial L}{\partial x_1} = \frac{\partial F}{\partial x_1} + \sum_{j=1}^{m} \lambda_j \frac{\partial G_j}{\partial x_1} \qquad (3)$$

$$\frac{\partial^2 L}{\partial x_i\, \partial x_k} = \sum_{j=1}^{m} \sum_{k=1}^{n} \left(\frac{\partial^2 F}{\partial x_i\, \partial x_k} + \sum_{j=1}^{m} \lambda_j \frac{\partial^2 G_j}{\partial x_i\, \partial x_k} \right) \qquad (4)$$

This method has been successfully applied to determine the minimum weight of the product and the minimum amount of materials needed for production, which are first stocked in an optimized warehouse of appropriate volume. If a larger data bank is important for evaluation, the influence of subjectivism is weaker, because the parameters are defined by the designer and the corresponding significance factors are determined by the expert method (Tomić,R., Nikiforova,E., Pajić,S., 2012). The total number of points of the $k - th$ variant for the $j -$variable is determined on the basis of expression (5).

$$W_{kj} = \sum_{j=1}^{m} q_{kj} p_{kj} \qquad (5)$$

Where: q_{kj} - factors importance for the k-th variant $k = (1,2,3,\dots,n)$, and p_{kj} - estmation of competence for the $k - th$ variant and the number of properties $j = (1,2,3,\dots,m)$, according to (Tomić, R., Nikiforova, E., Pajić, S., 2012).

$$W_k = \frac{W_{kj}}{W_i} = \frac{\sum_{j=1}^{m} q_{kj} \, p_{kj}}{p_{max} \sum_{j=1}^{m} q_j} \qquad (6)$$

The evaluation of the variant is determined by relation (6), where: p_{max} is the estimation of the assumed ideal solution, W_i is the total value of the ideal variant, and q_j is the significance factor for the ideal variant. Based on (6), if the validity parameter of the solution is $W > 0.25$, the solution is adopted as satisfactory, and if $W > 0.88$, the solution is above the set goal. The procedure of evaluation and decision-making is also applied in the design process by applying hierarchical goals by levels, where the initial level is represented by the general goal, while other levels are obtained by leveling the general goal (Tomic, 2004). Determining the magnitude of the importance of goals is done at stages, from more complex to simpler functions that determine the goal. It is also possible evaluating ($for W$) at the level of: 0.00-0.20 unusable; 0.21-0.40 weak; 0.41-0.60 satisfactory; 0.61-0.80 very good; 0.81-1.00 in accordance with the set goal (Andjelković,M., Radosavljević,D., Tomić,R., 2022).

3.3. Modeling the framework for determining performance

In reality, there may be deviations from the basic format of the model (or from the plan), which means that the planned results are not always and completely achieved: [3]

there may be a mismatch of quality (scrap, finishing and additional manufacturing);

- time overlap (poor operational plans, poor preparation);
- resource overlaps (there is no discretely precise division of resources etc.).

These losses have a negative impact on performance. For example, non-compliant quality means an increase in costs due to reprocessing, finishing or production of a new product and/or exceeding deadlines. Therefore, performance evaluation and analysis of results are very important.

The above principles have been developed on the basis of a system for monitoring production and business performance. Now, for example, MES (Manufacturing Execution Systems) provides an opportunity to quickly identify deviations from the planned values and immediately implement corrective measures. [4]

3.4. Results

The results were obtained on the basis of a consistently defined starting point related to the company, its programs and system of functioning in accordance with the level of TQM implementation, and program and funcional competence, Table 1. Determining the performance of the company is here with a focus on implemented TQM (and its influnce to the very satisfied results).

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[3] (Lavina, Jaak et al., 2015): https://kirj.ee/public/proceedings_pdf/2015/issue_4S/Proc-2015-4S-558-566.pdf (datum pristupa: 02.03.2022);
[4] Ibid;

This is the FBSL research team's own analysis, within the project "Improving the total quality of digitized transport and logistics service systems". A suitable virtual model of the company was selected, which in principle would be most suitable for a company working in the field of transport and logistics. The model is equally interesting for the company (due to the rational use of resources and effective realization of products and services which lead to good business results.

Table 1: Determining the performance of companies with a focus on implemented TQM

PARAMETAR	*a*-Factor of significance	b=0,5	b=0,6	b=0,7	b=0,8	b=0,9	b=1,0
TQM: Factor of significance = 0.06			**When b = 1.0 then TQM is fully implemented**				
		PERFORMANCE (b-competence of the company and r-coefficient of realization in relation to the plan)					
COMPANY IMAGE	0,04	0,02	0,02	0,028	0,032	0,036	0,036
AFFECTION OF CUSTOMERS	0,05	0,015841584	0,01782178	0,022277228	0,031188119	0,035643564	0,042326733
LOCATION AND COMMUNICATION	0,03	0,014257426	0,01425743	0,013009901	0,014257426	0,017821782	0,024950495
TQM (QUALITY SYSTEM)	**0,06**	**0,02340**	**0,03276**	**0,03822**	**0,04368**	**0,04914**	**0,05580**
TECHNOLOGIES AND PROCESSES	0,13	0,07917	0,08645	0,08645	0,11115	0,117325	0,1261
INFRASTRUCTURE AND EQUIPMENT	0,09	0,072	0,0747	0,0801	0,0855	0,0873	0,09
MARKETING	0,06	0,02831068	0,03390291	0,039553398	0,042378641	0,053679612	0,056504854
RESEARCH & DEVELOPMENT	0,07	0,029555556	0,03888889	0,038888889	0,051851852	0,058333333	0,077777778
STAFF-EMPLOYEES	0,11	0,060173267	0,06725248	0,072425743	0,07759901	0,082772277	0,099
FINANCE	0,05	0,028166667	0,03033333	0,032666667	0,037333333	0,037333333	0,038857143
PRODUCTION	0,12	0,066873786	0,07666019	0,082135922	0,08761165	0,098563107	0,100660194
ENVIRONMENTAL PROTECTION	0,03	0,021826636	0,02436955	0,024793364	0,026912454	0,021190909	0,021190909
INFORMATION SYSTEM	0,02	0,011875	0,014375	0,014375	0,016428571	0,022835714	0,024478571
PURCHASE AND SALE	0,06	0,033264706	0,03632353	0,041911765	0,050294118	0,050294118	0,051352941
LOGISTICS (SUPPLY CHAINS)	0,06	0,026057143	0,03325714	0,0388	0,041571429	0,049885714	0,051942857
TRAINING PROGRAMS	0,02	0,008134615	0,00882692	0,009807692	0,013730769	0,017653846	0,020769231
OVERALL PERFORMANCE	**1,00**	**0,538907066**	**0,61017915**	**0,663415568**	**0,763487372**	**0,835772309**	**0,917711706**

(Source: authors)

The values (in the relevant assessments and analysis), according to the parameters identified in Table 1, are represented here. The results are presented in tabular and graphical form. Examples are made as own models with adequate solutions. Most of the results were done using the capabilities of Excel (primarily mathematical operations, matrix equations, functional equations at the level of probability and statistical, and of course the creation of diagrams), based on a number of obtained tables with reference data. This table (at the level of the expert model) will be given only for the
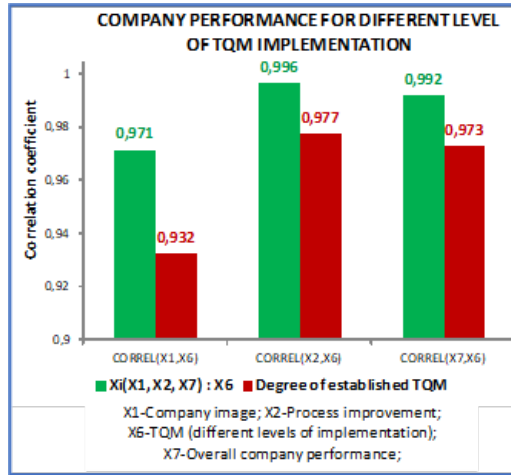
basic, successful variant of the implemented TQM in the company, where it can be seen that in the year of full program implementation of TQM, the plan was exceeded by 1.62%. The achieved result is in accordance with the set goal (W = 0.82379> 0.81).[5] In the Excel tables (which have been considered) there is a central part of the process data (very cumbersome to show in the paper and for this reason it is omitted here). The quality of input and output display is not necessary here, but it will be seen all that is necessary and useful for presenting representative results and their interdependence.

Complementary results will be presented below, which fully confirm the positive strong correlation between the performance of the company (total and marginal by parameters) and the implemented TQM system (through direct contribution of TQM as a program, and indirect contribution as a response of systems with functions that achieve good output of final quality). Immediately, as the first encouraging result, it was find the correlation at the global level, in the phase of development and implementation of TQM, Table 2 and Fig. 2.
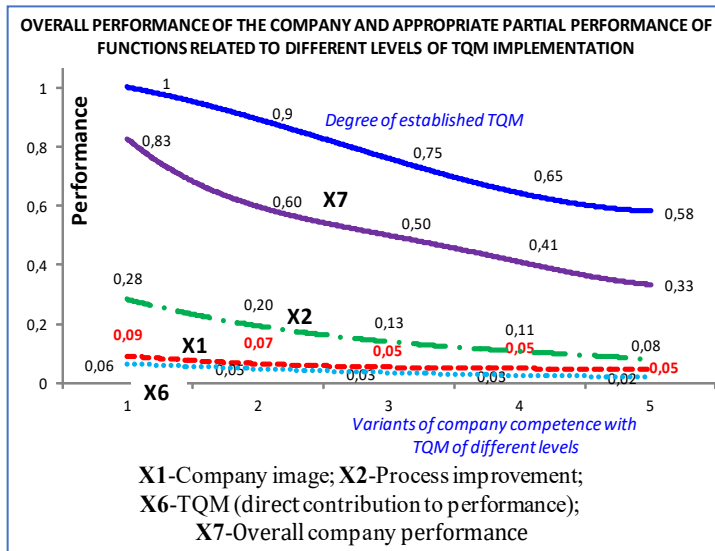
Table 2: Correlation of TQM performance with improved processes and overall performance (Source: authors)

Variant of TQM implementation levels	0,60	0,55	0,50	0,45	0,40	CORREL
Process and production improvement	0,236	0,224	0,215	0,208	0,202	0,993202
TQM direct contribution to the performance	0,046	0,036	0,033	0,027	0,024	1
Overall performance	**0,831993**	**0,826528**	**0,804683**	**0,786650**	**0,783000**	**0,942016**

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[5] Group of authors (2022). Monograph FBSL: "Improving the total quality of digitized transport and logistics service systems".
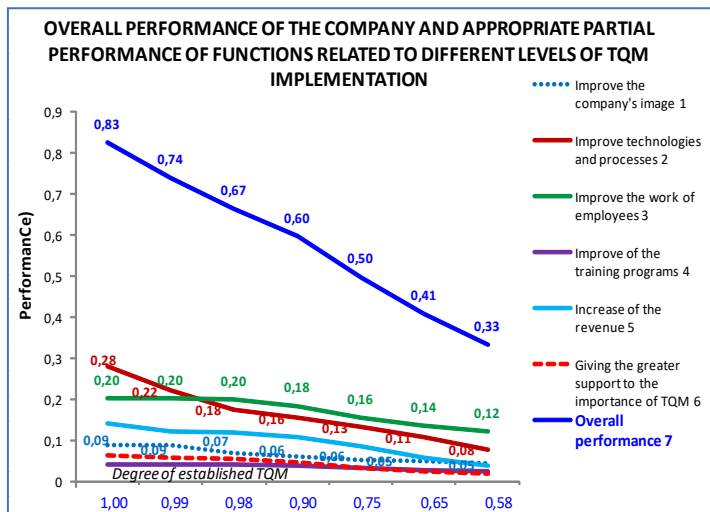
Figure 2. Enterprise performance for different levels of TQM implementation
(Source: authors)

Figure 3. Overall performance of the company with appropriate
the contribution of TQM and the performance of individual functions
(Source: authors)

For easier interpretation of the graphically presented results in Fig. 6, an appropriate accompanying table will be given where all the data on the basis of which this very important diagram was made can be clearly seen. The performance of the company with the implemented TQM, depending on the competence of the company by functions and the realization in relation to the plan, can be calculated. The parcial functions (functional dependences) can be obtained by regression analysis and then compared to the TQM function and overall performance one, Fig. 8.

Figure 7, is practically the most important for the considerations in this paper, because it talks about the sustainability of the model at the level of the "Performance-TQM" relationship, which was used for analysis. Othervise, for the purpose of assessing compliance in achieving performance, a correlation of the complete implemented TQM system with TQM was performed according to the phases of implementation, Fig. 8.

Figure 4. Total performance of the company and the corresponding partial performance by elements (Source: authors)
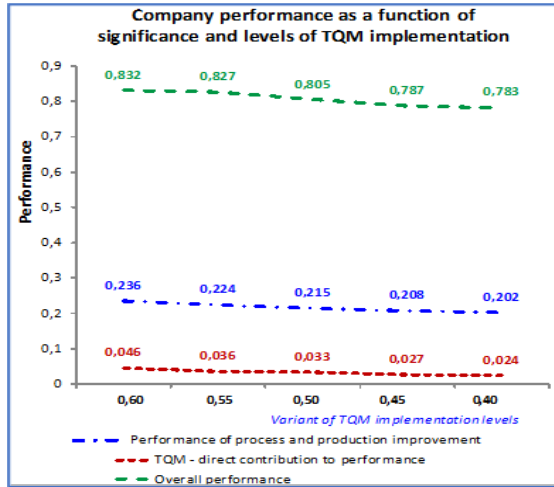
Figure 5. Company performance as a function of the importance and level of TQM implementation (Source: authors)
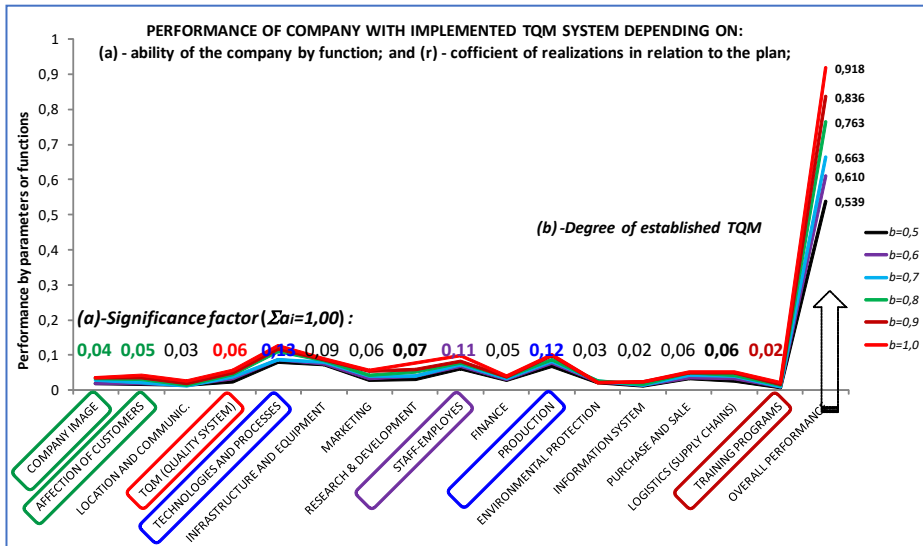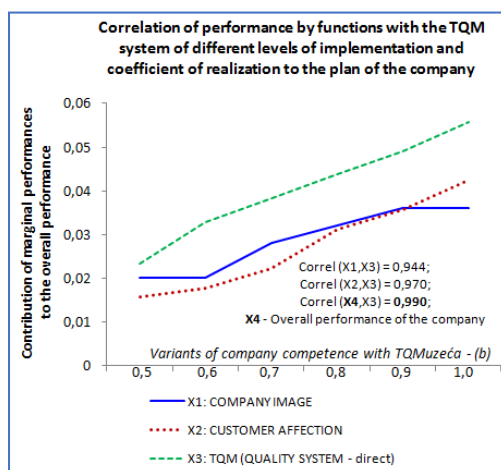

Figure 6. Performance of enterprises with implemented TQM (Source: authors)

It is obvious that a certain format of a company conditions its image, so that when image reaches a certain level (no matter how high) it is maintained or slowly improved regardless of improving customer satisfaction and preference. It is obvious, in a certain time interval with the good business results, image continue to grow. The mutual relations of the presented effects in Fig. 8, are in a strong positive correlation.
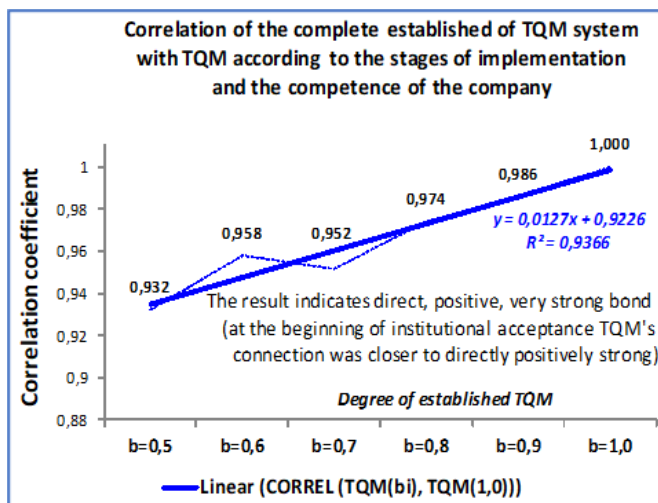
Correlation of full TQM system with TQM by phases of implementation, Fig. 8, states to reson that the management took care of the correct setting of goals, plans and implementation of the program, so that it can be concluded that TQM is accepted by all employees and consumers (as well as at the level of all stakeholders).

The process results had been achieved according to the plan (under normal conditions of implementation) is considered. The results can be measured and the measures were obviously chosen correctly. The processed results, in accordance with the KPIs and the implementation of planned activities, led dynamically to the results on the basis of which performance was identified, so the answer was given regarding the correctness of set goals in the past and indicators of correct setting future with goals and tracing their achievement (Arsic, M., Kokanovic, M., Tomic, R., 2018) and (Andjelković, M., Radosavljević, D., Tomić, R., 2022).

Figure 7. Correlation of partial performance
with the performance of the TQM system (Source: authors)

Figure 8. Correlation of full TQM system
with TQM by phases of implementation
(Source: authors)

3.5. Final considerations

Here are presented some explore aspects of interest for understanding the broader context of research in which this paper is also exist. [6]

Defining sets of indicators to assess transport sustainability has been a challenge for many authors and institutions. The ECJRC study (European Commission Joint Research Center) [7] proposes the application of a synthesized set of 55 indicators that should enable the assessment of transport sustainability in the following 5 dimensions: economic, sociological, ecological, technical – exploitation, and institutional dimension.

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[6] Ibid;

[7] JRC provides independent scientific and technical advice to the EC in support of a wide range of EU policies. There are seven research institutes located in six different locations in EU countries: Belgium (Brussels and Geel), Germany (Karlsruhe), Italy (Ispra), the Netherlands (Petten) and Spain (Seville).

Relevant "transport topics" (at the level of processes and results) can be transformed into appropriate indicators of sustainable transport (sets of indicators), whose structure should support an appropriate balance of economic, social and environmental goals and impacts, ie sustainability requirements, with knowledge of perspective, assumptions and limitations of each indicator.[8] A complex business system in a real environment requires a multidimensional approach to the selection of indicators, measures and measuring business performance.

The real possibility of identifying performance may be at the level of models based on different research, where in this sense there are no specific recommendations or limits.[9]

Modern strategic management tools (Balanced Scorecard Examples with KPIs)[10], e.g. The "concept of the prism of performance" is indicated that it is possible to make the right choice of non-financial measures which are closely related to the strategy, ie criterions, through which the implementation and success of the strategy will be monitored and managing (Backović, N., Jovanović, G., 2014).

The set of possible performance measures with stakeholders is shown in the appropriate table (Backović, N., Jovanović, G., 2014), which was also used in the preparation of the monograph,[11] so it will not be repeated here.

Financial performance measures are based on accounting reports and are not suitable for measuring qualitative (non-financial) determinants of company development (eg: location-communication advantages, customer preferences, etc.).

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[8] Bojković,N., Macura,D., Pejčić-Tarle,S. & Bojović,N. (2011). A comparative assessment of transport sustainability in central an eastern European countries with a brief reference to the Republic if Serbia, Internationa Journal of Sustainable Transportation, vol. 5, No 6., 319-344

[9] Kaplan, R., Norton, D. (1992). Model je izvorno kreiran kao kontrolni (strategijski) sistem za merenje performansi. Danas je to evoluiralo u strategijski upravljačko-kontrolni sistem koji pomaže u relizaciji strategije (Domanović, 2010);

[10] https://bscdesigner.com/real-bsc-examples.htm (pristup: 28.01.2022)

[11] Group of authors (2022). Monograph FBSL: "Improving the total quality of digitized transport and logistics service systems".

For that reason, the system of official financial performance measurement is being expanded (more precisely, a set of quality indicators are being added to it). The measurement of these indicators is important due to the harmonization of the company resources with the implemented strategy, as well as due to the improvement of business processes and activities.

It is obvious that establishing and nurturing the right business relationships with key stakeholders is extremely important for business success, competitive advantage and unambiguous, positively recognizable, business reputation of the company. This improves financial performance in the best possible way and creates a long-term competitive advantage for the company in the market.

It is considered that at the level of the organization there should not be more than 10 KPIs (Andjelković, M., Radosavljević, D., Tomić, R., 2022). Otherwise, KPIs can be: financial, functional, physical, customer satisfaction, etc.

Based on the procedure (Tomic, 2004) and equations (1) to (6), several possible variants of business achievement of the company were defined and considered, regarding performance and TQM. The results are in line with the basic inputs and transformation processes, so that the final results that speak of achieving goals, and performance derived from the above goals, plans and achieved results, are fully acceptable for assessing the situation and creating a basis for defining future goals and plans.

CONCLUSION

The presented methodology, compared to a completely intuitive approach, gives much more reliable results and the ability to establish the initial valorization of an idea for a new program (product or service) with less risk. Furthermore, it establishes a cost-effective marketing strategy for the market and cost analysis, and develops a technically and commercially reliable product of high quality as well as levels of repeatability of production and delivery.

It is clear that any objectification of the set goal, as well as finding suitable solutions to reach that goal, is more reliable than uncontrolled copying of available

solutions on the market or subjective evaluation (often lacking the very important elements of analysis and optimization).

In this regard, the authors hope to inspire researchers, designers and business people, especially in the field of technological investment and program development, so that with a higher level of caution and better risk assessment enter new projects, which is especially important for rational investment in these times of crisis (whether it is about budget funds, favorable loans provided by development banks or whether it is about the own funds of a successful company). Based on the example presented here, it is clear that the establishment of suitable new models for managing business, costs and revenues, quality and performance must be sought in order to achieve maximum effects, primarily in terms of profitability and customer satisfaction. Such a business management model of the company, for now, exists only at the level of the implemented TQM scheme, where is take full care of quality with a constant focus on the customer or user.

TQM is primarily a system based on common sense. In itself it is a useful model but it is much more useful in guiding, directing and implementing logistics of good performance by business functions as well as all guding employees at the level of companies operating in a real environment. KPIs best show a firm's performance, and can be tracked relatively easily. Such monitoring facilitates management's insight into the content of simple reviews (at regular intervals, usually in the form of tables and diagrams), so that they can be quickly, easily and clearly monitored by basic business indicators and by taking appropriate measures.

Authors think that the important aspects of both concepts (of TQM and KPIs) are presented here, as well as their combination. The useful example has showed the sustainability of an integrated model that reflects the very important care of the company and its programs and business activities,[12] with optimal or rational effects.

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