

The Role of Information Systems in Maintaining Interrelation between Marketing Activity and Quality Assurance Activity within the Company

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Abstract. Modern business conditions are characterized by the following principles: increased dynamism of the business environment, increased competition in the sales markets, changes in the requirements and needs of customers, the development of modern information and communication technologies in management behavior, increased information asymmetry due to insufficient quality of information infrastructure and information support, high requirements for the process quality of enterprise, which qualitatively changes the target function, forcing enterprises to focus mainly on strategically important business areas, regardless of industry sector and field of activity, providing increased competitiveness and overall performance. The creation of an information system that integrates marketing tools and quality assurance tools will meet the needs of the target market segment for quality products and the competitive stability of the enterprise to the greatest possible extent.

1. Introduction

Currently, the promotion of enterprise competitiveness and maintaining a leading market position by achieving strategic compliance is impossible without the integration of internal processes, improving the effectiveness of quality assurance processes, achieving information transparency and marketing synergy. In view of this, there is a need to maintain the interrelation between quality management process and marketing activity of the enterprise through the development of effective information systems, caused by the following circumstances: the key factor in commercial success of a business is the level of customer satisfaction, and the quality economics is based on a consumer assessment, which implies considering the product quality as a quality of conformance with customer requirements; market profiling and constant changes in segment-forming factors lead to a revectoring of the manufacturers' target settings from achieving the product highest technical parameters to achieving a certain level of quality corresponding to the current needs of the target segment; the focus on the full satisfaction of the target segment customers' needs is based on the backbone business competencies, which ensures the emergence of distinctive capabilities (competitive advantages) that increase the business competitiveness.

2. Scientific significance of the article

The analysis on scientific papers in the field of theory and methodology of quality management, development of theoretical and methodological tools for the formation of effective quality

management systems in a business environment of leading domestic and foreign scientists makes it possible to come to the conclusion that: systemic and synergetic approaches help to identify the essential characteristics, patterns and principles of effective quality management concept in a business environment, which determine the specific requirements for the forms, content, levels and forming connections of the study object, build and justify theoretical models [1, 2, 6, 7, 8, 9, 11, 12, 15, 17] ; functional and process approaches guarantee the implementation of an integrated process approach to the life-cycle stages of a quality system that is absolutely adequate to the technology of reengineering as a methodology for radically restructuring business processes aiming to achieve significant improvements in critical performance indicators [3, 9, 11, 17, 19]; integrated, resource-based and situational approaches provide a means of developing theoretical aspects of optimizing quality management process and resources to maintain it throughout the supply chain, taking into account the specific situation [1, 3, 5, 18]; logistic [1, 4, 15] and marketing approaches [10, 11, 16, 20] ensure that the enterprise achieves its target goals with the maximum efficiency of its market offers (in regards to the significance for a particular consumer) and the minimum cost of achieving efficiency.

3. Formulation of the problem

The choice of a marketing approach in the quality assurance process within the company involves the development and implementation of an interactive mechanism for harmonizing a portfolio of relationships with the system focusing on identifying consumer value drivers, which will ensure consumer flow control during phased organization of interaction to obtain synergistic effects and minimize the risks of production and commercial activities, while the use of innovative marketing technologies in consumer-oriented system under the conditions of constantly changing business environment will reduce production costs per useful effect unit of the use value, and thereby increase the customer satisfaction level by increasing the value and level of product quality. The information system will become key tool in building the optimal relationship between marketing and quality assurance activities.

4. Results and discussion

For generating the functioning model of information system for solving the marketing activity (MA) and quality assurance activity (QAA) tasks, the data presented in the studies of Goryacheva I.A. [4], Kruglova M.G. and Shishkova G.M. [9] were taken as a basis.

Needless to say, it is impossible to achieve a balance between internal fixed constraints and external disturbing influences in order to maintain the stability and competitiveness of the enterprise without information support for management processes, including MA and QAA management processes. The functional model of information system (IS) presented in Figure 1 provides a recording of any changes in the internal and external environment of the enterprise in the database, while any managerial impact is based on the database, where the impact result is fixed. The general cycle of the information system's functioning begins with the specification of the targets established within the framework of the general market strategy [4, 13]. Parameter diagnostics of the external and internal enterprise environments is carried out, and then an assessment is made of their compliance with the valid range. After that, a set of informational flows necessary for making managerial decisions and their implementation is formed, and also a plan for adjusting and controlling the movement of informational flows within the selected control points is generated. The implementation of the system improvement plan if the inconsistencies were identified is carried out taking into account the capabilities, enterprise specifics and environmental factors, the impact of which can be expressed in changing the view of enterprise future, modifying its goals and evaluation criteria.

The plan implementation to improve the information system for solving MA and QAA tasks will be carried out depending on the diagnosed situation, namely, the segments of the presented matrix in Figure 1 describe nine choices P1 ... P9, which represent a specific behavior based on a combination of the information system's information stability level and the quality of managerial decisions made.

According to scientists [14], information stability is the instrument to measure the quality of information support for the adoption and implementation of managerial decisions, as well as the indicator of importance degree evaluation on informational flow for the management process.

So, P_1 corresponds to a situation when low information stability leads to a low quality of managerial decisions made.

P_2 corresponds to a situation when the average quality of managerial decisions is provided by a low information stability of the enterprise's IS, which is ensured by experience and staff qualifications.

P_3 corresponds to a situation when a high quality of managerial decisions is achieved with low information stability. However, the high quality level of managerial decisions is situational and short-term in nature and depends on the experience, qualifications and knowledge of the market infrastructure by managerial personnel in the implementation of strategic decisions.

P_4 corresponds to a situation when a sufficient level of information stability leads to a low quality of decisions made, indicating the unprofessional behavior of managerial personnel in the implementation of targets, as well as the high degree of uncertainty in business environment.

P_5 corresponds to a standard situation when the level of information stability corresponds to the quality of decisions made, providing that it is possible to predict and minimize risks.

P_6 corresponds to a situation when the enterprise information system with a sufficient level of information stability ensures the implementation of high-quality managerial decisions, neutralizing information uncertainty.

P_7 corresponds to a situation when low-quality managerial decisions are made under the conditions of high information stability, indicating the need for changes in personnel and in company's management team, or that enterprise reorganization processes have begun. This situation is extremely rare.

P_8 corresponds to a situation when the high information stability of the enterprise information system ensures the sufficiently rational managerial decision-making with minimal risks within the targets.

P_9 corresponds to a situation when the high information stability ensures the implementation of high quality decisions. This situation is possible under the conditions of determined environmental parameters.

The authors suggest that for the implementation of the MA and QAA integration processes, it is necessary to create an information system functioning taking into account the following principles: consistency; informational completeness and suitability for users; compliance with the accuracy of information; real-time relevance; correspondence of the IS challenges to the enterprise challenges; timeliness; dynamism; functional and hardware capabilities' matching; information orientation; safety and reliability; opportuneness; flexibility, continuous development.

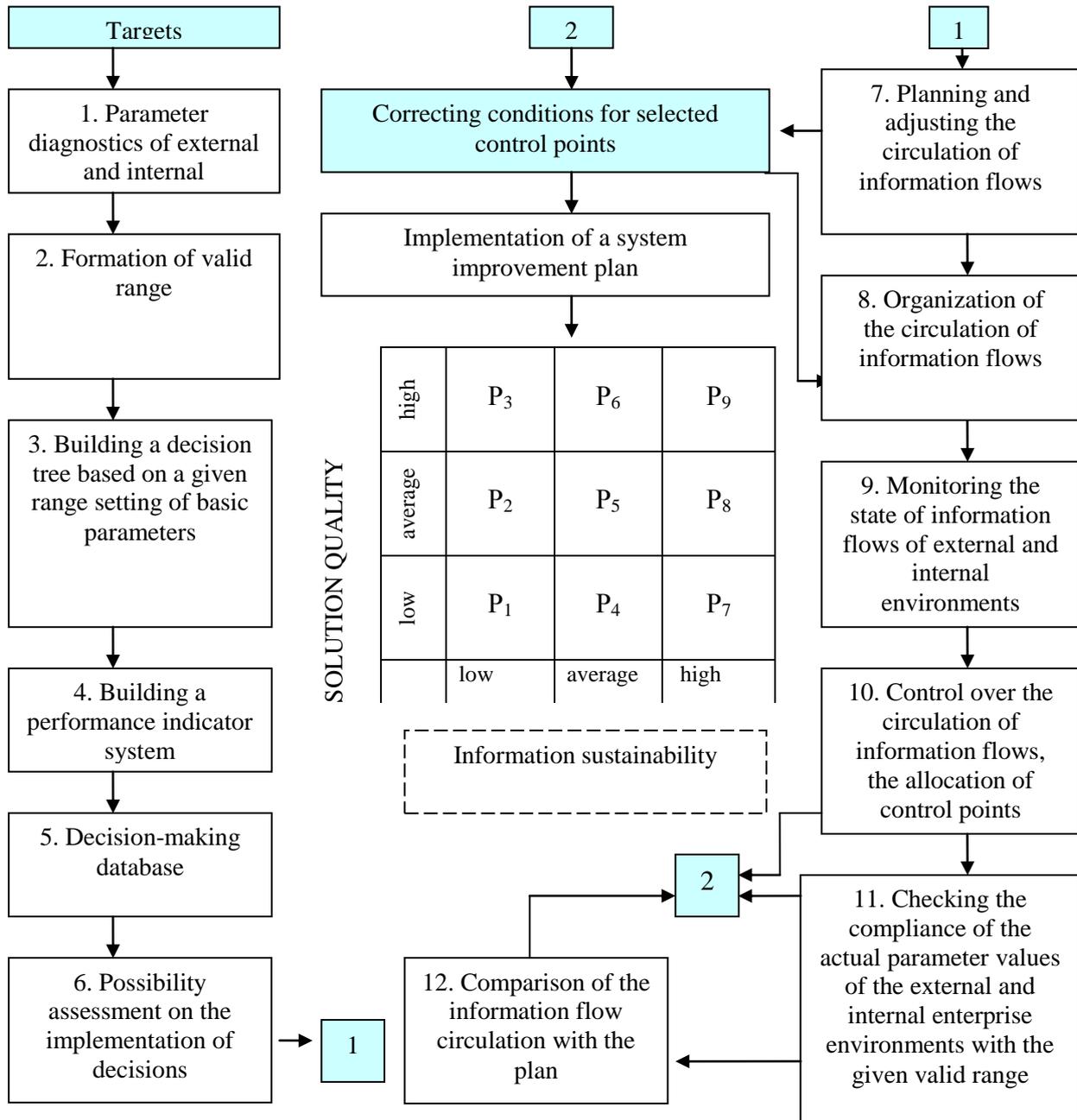


Figure 1. Diagram of the IS functioning model solving MA and QAA tasks (based on [4, 9]).

The functions of an information system for solving MA and QAA managerial tasks are to manage the information provision to decision-making processes; to manage the structure of the information flow; to manage the transmission of information flow; to manage the information accumulation; to manage the process of information flow control.

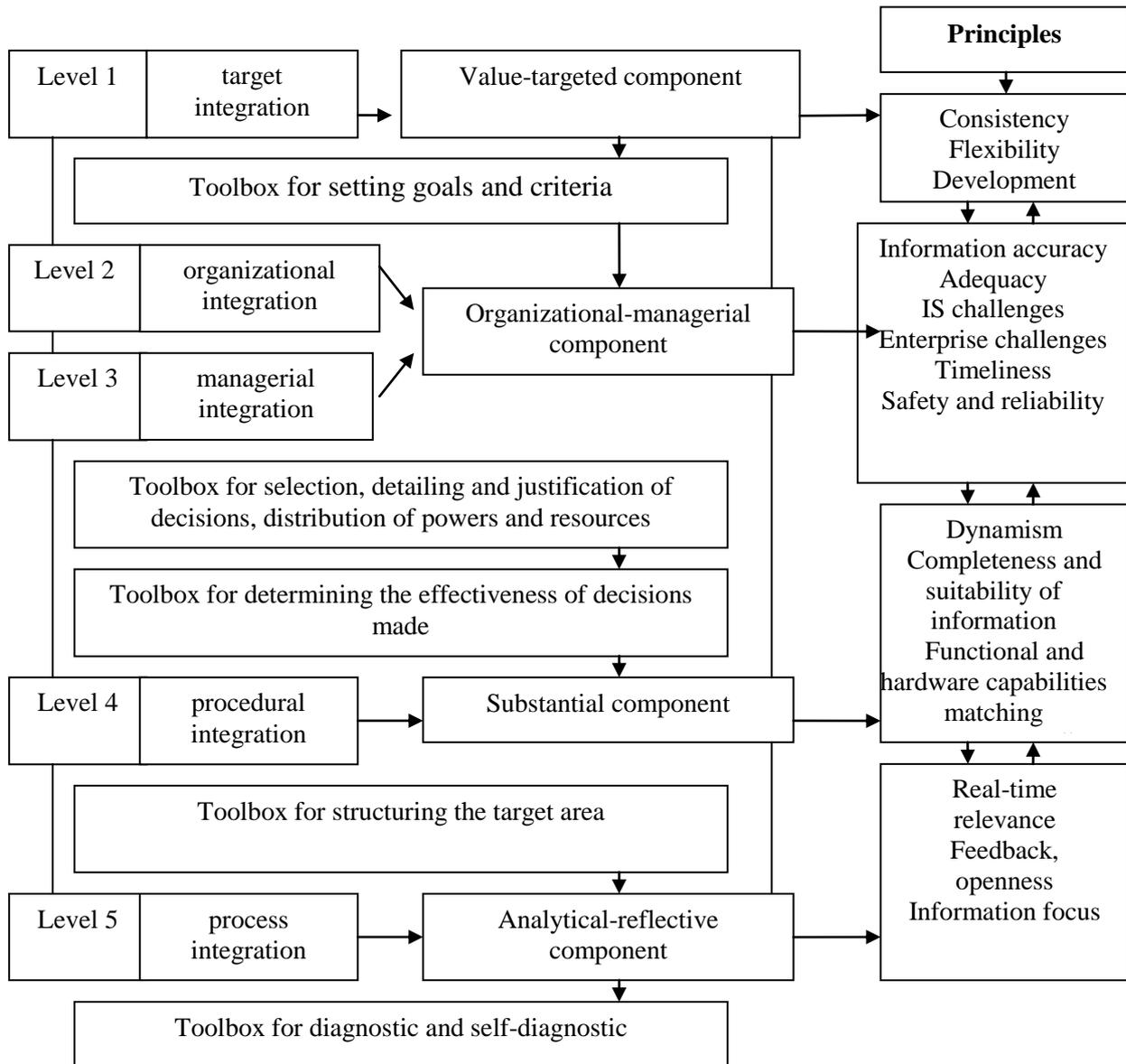


Figure 2. Level integration model of IS principles.

Figure 2 presents a level integration model of IS principles emphasizing value-targeted, organizational-managerial, substantial and analytical-reflective components, as well as the instrumental base of each component. The value-targeted component includes perception of needs for integration processes of MA and QAA, a targeted integration program, selection of means and methods of interaction corresponding to integration targets, as well as the design of information flows including a level partitioning of goals and objectives. The organizational-managerial component includes the preparation for selection and justification of managerial decisions, the distribution of powers and resources for information interaction within the integration of MA and QAA. The substantial component of the integration model is determined by the procedural functional component for information support of the MD and PKD processes and involves increasing the capabilities for implementation of IS functions. The analytical-reflective component involves the diagnosis, reflection and introspection of integration processes including the identification of the problem field.

5. Conclusion

The innovation of the proposed model of the information system for solving MA and QAA managerial tasks involves the formation of integration processes through the optimal control of information flows, which will maintain the connection between marketing and product quality management processes in a unified customer-oriented system, in which the communication process itself plays a significant role, as well as ensure the optimal product quality corresponding to individualized needs and expectations of consumers along with their maximum satisfaction within the target market segment.

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