

Information Support for Making Strategic Decisions on the Development of an Industrial Enterprise

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Abstract

Support of strategic decisions on the development of enterprise by information technology provides an opportunity to study in more detail each source of information and draw conclusions. The main role is played by the completeness, timeliness and reliability of information. There are high requirements for it. The clarity of the tasks, data analysis, efficiency of processing the results depend on the qualifications of the staff and technologies used in the enterprise. Strategic decisions reflect the interaction of the campaign and the external environment. Therefore, the company needs to adapt to the external environment, which is constantly changing.

Keywords

strategy, strategic decisions, support, information, information support, information technology.

1. Introduction

Information support for making strategic decisions on enterprise development involves the accumulation and storage of information, ensuring access to it for all stakeholders in the innovative development of the enterprise. Innovative employees must be technologically and market-aware, which will form the necessary information base to create not only product, but also organizational and marketing innovative ideas. Thus, such information base should include knowledge of past experience and promising areas of development in such important areas as: features of corporate business strategy, its possible changes; application of effective management methods; significance and features of the implemented information technologies; changes in the organizational structure of the enterprise, the distribution of powers and responsibilities, as well as the goals that must be achieved through these changes; features of application of modern quality control systems, certification of goods,

works and services; introduction of modern systems of logistics and supply of raw materials, materials, components; creation and activity of specialized divisions on carrying out of researches and developments, practical realization of scientific and technical achievements; implementation and operation of corporate knowledge management systems; available staff development activities; the degree of use of third-party services by the enterprise (consulting, outsourcing, etc.); information on technical characteristics of products, their range and nomenclature, the degree of diversification of production; advantages and disadvantages (technical and economic parameters of competitiveness) of enterprise products; introduced and promising significant changes in the design of goods and services; implemented and planned changes in the packaging of goods; results of implementation of marketing strategies, actual and perspective market shares, key market segments of consumers; the results of the use of old and new methods of promoting goods; data on the efficiency of existing distribution and sales

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channels; features of pricing strategies of the enterprise and the results of their implementation. [1-4,8].

The accuracy, completeness and timeliness of the necessary information play an important role in these processes. There are high requirements for it. The clarity of the tasks, data analysis, efficiency of processing the results depend on the qualifications of the staff and the technologies used (Table 1).

Table 1

Content of works on information support of strategic decision-making

Stages	Contents of works
Data preparation and analysis	- data acquisition and preparation: observation and search; data acquisition and perception; data filtering and presentation; situation detection; - problem statement: identification and formulation of the problem situation; determining the structure of the problem situation
Problem setting and development of alternatives	- problem statement: qualification of connection factors; definition of goals and criteria; determination of conditions; coordination and evaluation of task components; task formulation, - model development, search, development and selection of problem solving method; - development of alternatives, grouping of alternatives by goals / criteria and conditions / resources; - forecasting and evaluation implementation of alternatives
Making strategic decision	- definition (refinement) of selection criteria: definition of selection profiles; generalization of the manifestation of the

	criteria of preference for selection; - selection of criteria; - design of the decision: interpretation and evaluation of the results of the choice (decision); development and issuance of directives for the implementation of the decision
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2. Presentation of the main material

Problems of strategic decision-making are called problems of unique choice, when the new object of choice or the situation in which it is implemented is new during its implementation [5]. The basis for highlighting the existing problems of formation of information and analytical support for strategic decision-making in machine-building enterprises were the methods of questionnaires, observation and expert evaluation. The study of problems of information and analytical support for strategic decision-making was conducted during 2017-2018 at 18 machine-building enterprises in the Kharkiv region [6,8]. In order to study the relevance of the issue of formation of information and analytical support for strategic decision-making, its importance for the enterprise was assessed. Thus, 14 enterprises out of 18 surveyed stated the high importance of having a modern system of information and analytical support. The main requirements for information and analytical support of strategic decision-making in the enterprise are presented in table 2.

Table 2

Basic requirements for information and analytical support of strategic decision-making at the enterprise

Requirements	Explanation
Openness and ease of access to information	Mobility – scalability of applications, portability to other objects. Binding applications to a specific manager and specific computing and operating systems. Configuration of functionality and user interfaces in a distributed structure

Compliance with the basic principles of document support	Regulated automated document management. Unity of accounting, control and storage of documents. Unity of substantive and formal accounting. Unity of synthetic and analytical accounting. Multicurrency.
Creating a single information space	Spatial distribution of users. Real-time information system operation. Expanding global telecommunications capabilities. Intra-system information connectivity. Multiple interfaces
Preference for specific management characteristics and user managers, user interface specifications	Description of structure, composition of functions and powers. Integrated system data transmission for various communication schemes. Configuration of services (including information protection and interaction regulations). Configuration of intersystem interfaces.
Reliability, security and safety	Redundancy, including technical and information duplication. Multiple levels of protection. Authorization and control of access to the system for individual operations.
Ensuring the controllability of the control object	Management of development strategy and tactics. Analysis of the state of the external and internal environment. Consolidation of networks of branches and subsidiaries and their management. Management of resources, portfolios of assets and liabilities.

	Administration of electronic document management, rights and responsibilities.
Unified regulations for documentation, maintenance and modification	
Multi-level system of analysis and preparation of decision-making with a flexible graphical user interface.	

But in fact, from the point of view of employees of enterprises, the system of information and analytical support for strategic decision-making exists in 6 out of 18 surveyed enterprises (30%). From this we can conclude that in general there is a need for information and analytical support for strategic decision-making, but such a need is not met in domestic enterprises. Moreover, the relationship between the need for information and analytical support and the actual use is low (table 3). This is confirmed by the calculation of the contingency ratio for dichotomous variables ($K = 0.013$), the low value of which indicates the lack of connection between the need and the actual implementation of the system of information and analytical support for strategic decision-making.

Table 3

The results of the survey on the importance and availability of information and analytical support for strategic decision-making (IAZ AKP) in the studied machine-building enterprises

Indicator	Importance of IAZ AKP (high / low)	There is a problem with the implementation of IAZ AKP (exists / does not exist)
Number of enterprises out of 18 surveyed	14/4	6/12
Contingency ratio	0,013	

The research conducted at the selected enterprises was aimed at identifying the need for information and analytical support for strategic decision-making and analysis of information on the existing problems of formation and use of such support. Selected problems of strategic decision-

making in enterprises are presented in table. 4. The peculiarity of the selected problems is that in the current management of the enterprise they are almost not felt – because for the current management of information support, strategic decision-making itself is often not of particular value, looks like an abstraction or refers to the future. But this does not diminish the importance of the problem in the context of strategic development management.

Table 4

Problems of formation and use of information-analytical support of strategic decision-making (IAZ AKP) on development of researched enterprises

Problems of formation and use of information-analytical support of AKP	Number of enterprises out of 18 surveyed in which such a problem exists	The importance of the problem for enterprise management
1. IAZ AKP is not formed at all	6	4,8
2. The company does not have specialized IT tools (software) for the formation of IAZ AKP	11	3,6
3. The company has no specialized units and specialists with IAZ AKP	9	2,2
4. Elements and separate information of IAZ AKP are realized by various divisions which activity concerning IAZ AKP is not coordinated	9	2,4
5. The company does not	8	4,6

allocate funds for IAZ AKP		
6. The company's staff (including top management) has no information on current capabilities on the tools of IAZ AKP	10	4,2
7. The company uses some elements of IAZ AKP, which are not complete and integrated into the management system	5	3,5
8. IAZ AKP is formed, but information flows are not consistent with each other	4	3,8
9. The existing elements of the IAZ AKP do not meet the information needs of information users	10	4,6
10. The existing elements of IAZ AKP are realized inertially	4	2,4
11. The results are qualitative, but do not find full use in AKP	3	2,0

Table 4 shows the number of enterprises that have these problems and provides an assessment of the importance of such a problem for strategic decision-making in the enterprise. The number of enterprises appears as a discrete quantity and varies from 1 to 18 (total sample size). The importance of the problem appears as a subjective interval value, which is estimated by an expert on

the basis of the involvement of the company's specialists for evaluation on a five-point scale, followed by averaging on the basis of arithmetic mean. The number of expert groups for each of the surveyed enterprises is different and varies from 3 to 11 people. The resulting importance of the problem for enterprise management is calculated as the arithmetic mean of estimates of the importance of such a problem for all enterprises for which such a problem exists. From this point of view, it is possible to distribute the presented problem issues (Table 4) according to two criteria – "importance" and "frequency" of the problem (according to the number of the stated problem question). According to these estimates, we can conclude that among the most serious issues in the formation of information and analytical support for strategic decision-making and are the most typical (as they occur quite often) include: paragraph 1, the lack of formation of IAZ AKP; item 2 lack of specialized tools; item 5 absence or insufficiency of actual financing of IAZ AKP; item 6 ignorance of the personnel of the enterprise concerning use and possibilities of IAZ AKP; Clause 9 inconsistency of IAZ AKP elements (if any) with the needs of information users. These issues should be the first focus of managerial attention in the case of trying to solve the problem of forming information and analytical support for strategic decision-making in the enterprise.

3. Conclusion

Important in managing the development of the enterprise, but the frequency of its occurrence can be considered partial rather than universal. On the contrary, the problems of the lack of specialists with IAZ AKP, as well as the low coordination of actions for the formation of IAZ AKP are quite common, but their importance is relatively insignificant. Problems of weak connection of elements of IAZ AKP with strategy of development of the enterprise and needs of users, insufficient use of the received results, despite their theoretical significance, from the subjective point of view of managers of researched enterprises are not too frequent and have rather small importance for enterprise development management. Therefore, in addition to providing information support for strategic decision-making, the problem of forming their organizational support is relevant.

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