

MODEL FOR HEURISTIC AND AI PLANNING STRATEGIES – A PATH TO LEADERSHIP IN SECTOR “TELECOMMUNICATIONS” IN BULGARIA

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ABSTRACT

The introduction of a model of heuristic and AI planning strategies as a management instrument by the companies operating in sector “telecommunications” in Bulgaria leads to reducing the time for collecting, processing, analyzing and evaluating information necessary for the strategic planning and goal setting. At the same time several benefits are achieved, such as lower resource consumption, reduced risk, higher level of objectivity and reliability of the management process, personalization of services. Additionally, attaining optimality and higher added value not only for the management, but also for the actual production process can be ensured. These strategic competitive advantages turn the organizations into leaders in the sector of telecommunications, where digitalization and automation form a specific “ecosystem” and determine the very dynamic and innovative development of the sector over the recent years. The challenge for management is the reproduction of the dynamic processes in a model, which implements a flexible systemic architecture carrying realistic and adequate information about the structure, processes and functional fields of the studied subject, enabling the planning of its activity as a response to the strategic goal setting. The application by the Bulgarian business organizations, operating on the telecommunication market, of such a model, based on heuristic systems with artificial intelligence, would lead to achieving leadership in respect to profit and market share in the sector.

KEYWORDS

Model, heuristic and AI planning strategies, telecommunications, leadership, added value

1. INTRODUCTION

The exponential speed with which the Fourth Industrial Revolution is developing leads to the quick upgrading of the achievements of the digital revolution, to combining the multitude of innovative and intelligent technologies, to new technological breakthrough comprising areas such as artificial intelligence, robotics, the Internet of things, autonomous vehicles without a driver, 3D printing, nanotechnologies, biotechnologies, material science, energy preservation, quantum

calculation. This determines both some unprecedented changes in the paradigm in economy, business and society, and a deep long-term transformation of all the public-and-economic, socio-economic, and business systems influencing the development of the traditional branches. The tectonic shifts in all the sectors of economy require the searching and finding of new business models, restructuring manufacturing, consumption, transportation, the supply systems and the entire production and commercial turnover.

The unprecedented merger of technologies in the physical, digital and biological world require from the economic entities accelerated management, production and technological transformation, which is impossible without the upgrading of the human resource potential for using a new management toolset, models and approaches based on the heuristic and AI planning strategies.

The changed conditions of the environment in which the business organizations operate ever more tangibly require the need of their intelligent management, where the role of the human factor is minimized, and the objectivity of the analysis, evaluation, planning, organization and control over the strategy is focused on the competencies of some innovative heuristic and intelligent management systems. The introduction of the heuristic and AI tools and models in the management process of the Bulgarian telecommunication companies will “push” some of them to a leadership position, since currently the market share of the three major telecommunications operators is relatively equal.

The leadership, achieved through heuristic and AI planning strategies, should be described as:

- ✓ coordinated with the strategic organizational reference points;
- ✓ realistically reflecting the changes and challenges of the environment;
- ✓ time-wise limited by the global economic, social, technological and innovation dynamics, which is accompanied by an excessive race for resources and over competition.

2. DEVELOPMENT OF THE SECTOR “TELECOMMUNICATIONS” IN BULGARIA

In 2015 in the sector „telecommunications” in Bulgaria, the total revenue from the provision of mobile telephone services decreased by 18.5% compared to the previous year 2014. The trend is due mostly to the saturation of the traditional markets for voice services, the imposed regulatory reductions of the prices for termination, as well as a growth of 106% compared to 2014 of the services offered in a package. [1] The reported drop in the number of the active SIM cards with a possibility to use voice services for 2015 is 3.1%, where the main reason for that is the tight competition between the participants on the market, who offer increasingly advantageous plans for the users with a growing number of minutes included for making calls outside their own network, thus making useless the practice for a user to have SIM cards of more than one mobile operator.

The domestic traffic is 73.4% for the different mobile networks, which is a relatively high value, however, compared to 2014, there is drop registered of almost 7%.

The traditional telecommunication companies on the Bulgarian market are “Mobiltel” JSC, „Telenor Bulgaria” JSC and BTC JSC, where, in spite of their relative parity, the redistribution of the market shares between them is still going on.

“Mobiltel“ and BTC report some growth in the shares calculated both by the number of clients, and by the revenue from the provided mobile services at the account of a drop in the market shares of “Telenor Bulgaria”.

“Mobiltel” has a market share of 40.9% (according to the number of subscribers), which represents growth of 0,5 percentage points compared to 2014 and 40.8%, revenue-based (annual growth of 1.9 percentage points). For 2015, BTC had a share of 25.5% (according to the number of subscribers) and growth of 1.4 percentage points compared to the previous year and 30.7% revenue-based, with annual growth of 4.7 percentage points.

Unlike 2014, when “Telenor Bulgaria” had market share growth by the number of clients, in 2015 that share decreased by 1.9 percentage points down to 33.6%, while the share of the operator on the revenue basis amounted to 28.5% with yearly drop of 6.6 percentage points.

An additional factor for the redistribution is the transferability of the telephone numbers.

The total number of the transferred numbers in the mobile networks for the period 2009-2015 was above 1.2 million. In 2015 the number of the transferred numbers grew by 40% compared to 2014, with growth of 27.55% in 2014 compared to the previous year.

Towards the end of 2015, the total number of the actual providers of services for transferring data and/or Internet access was 669, where growth of 4% was reported compared to the previous year. The broadcasting of radio and television broadcasts registered a drop compared to 2014 of almost 6%.

The total number of subscribers to Internet services increased by 31% compared to 2014. The number of subscribers of fixed access to the Internet increased by 8% compared to the previous year, and the number of the users of mobile services for Internet access – by 42.4% compared to 2014. The increase of the number of subscribers of mobile access to the Internet was due to the growth of 76.6% for one-year period of the users of package services with included mobile access to the Internet.

Towards the end of 2015 the number of the companies offering package services was 100. Compared to the previous year, there was considerable growth both of the revenue from installation fees and monthly subscription of services in a package (with 51.5%), and of the number of subscribers (with 45%).

Most popular with the users with 68.6% relative share is the package service, including mobile voice service and mobile access to the Internet, where the number of the subscribers to that service grew by 76.9% compared to 2014.

Next, in terms of the number of subscribers, are the package services for television and fixed access to the Internet with 15.6% share and mobile voice services with 10.4%.

The paper foresees growth of those services in the future as well, since they are popular with the users.

Increasing competition in the telecommunication sector has been observed on the Bulgarian market, which also leads to fostering investment in the sector and is also beneficial for the users. All of this delivers the necessary prerequisites for introducing a model of heuristic and AI planning strategies in the management of the Bulgarian telecommunication companies. Thus, those of them, which can adapt in a quick and flexible way and with appropriate goal setting to the new market conditions, will succeed in becoming leaders on the Bulgarian market in the

telecommunication sector. The new challenges result from the Fourth Industrial Revolution, namely the increasingly higher requirements of the users and their expectations for fair treatment; quality and price ratio and also service accessibility.

The advantaged of the heuristic and AI planning strategies are primarily related to:

- ✓ the possibility for creating “intelligent factories”, where the virtual and physical production systems will cooperate in a flexible way and on a global scale;
- ✓ the merger of technologies and their interaction in the physical, digital and biological sphere;
- ✓ total personalization of the products;
- ✓ creating new production models;
- ✓ the possibility for multiple options and application of scenarios based on the integration of the system, situational and process approach;
- ✓ lower resource consumption of the global value chains;
- ✓ optimization of activities;
- ✓ increasing the objectivity of the analytical process;
- ✓ decreasing the risk in the management process.

The low level of leadership in the telecommunication sector in Bulgaria and the insufficiently comprehended understanding of the changes occurring in all the sectors, creates favourable preconditions for achieving leadership in the sector by the economic entities, which have strategically set the goal of introducing the heuristic and AI planning strategies in their management activities. As a result from that, there will be not only an increase in the revenue and market share of those telecommunication companies, but there will be also an increase in the added value, which they have for their employees, users and investors.

3. MODEL FOR HEURISTIC AND AI PLANNING STRATEGIES IN THE TELECOMMUNICATION SECTOR IN BULGARIA

3.1. Nature of the planned strategy

The strategy suggests a shift in the organization from its current position to a desired but unknown future position. Since the organization has never been in that future place, the road there represents a series of related hypotheses. [5] The model for heuristic and AI planning strategies describes those hypotheses, which makes them evident and verifiable.

The strategy is a new route for the business organization – a path, which it has never followed. Nevertheless, how much it has been discussed, the strategy quite often remains unrealized. The strategic goals, set in the model, serve as starting points on the way of realizing the strategy (fig. 1.), while the strategic alternatives are preconditioned via the relation between strategic goals and specific systems of events, mutually integrated in an integral and comprehensive strategy.

There is no principle imposed in the economics literature and practice about the “right” number of strategic goals. If we assume that each strategic goal can be bound mainly to two efficiency indicators, so that its meaning could be accurately reflected, then 20 strategic goals would mean at least 40 efficiency indicators in one single organization-and-production system of indicators. Provided that such a system is multiplied in the form of a cascade structure of systems on the different hierarchical levels in the organization, it will be quick and easy to reach the impressive several hundreds of indicators – a process, which is quite difficult for management and control. In view of using the capacity of methodology as a system for simultaneous measurement and communication, it would be appropriate to keep the number of strategic goals on an acceptable and manageable level. Generally, as a recommendation and orientation for an appropriate initial first estimation, the strategic goals could be between 10 and 20.



Figure 1. The place of the model for heuristic and AI planning strategies within the strategic management of the business organizations

In the elaboration of a model for heuristic and AI planning strategies, its functionality and efficiency are determined by:

- ✓ the logical completeness of the cause and effect relations therein;
- ✓ the accurateness and correctness of its elements;
- ✓ its logical theoretical appropriateness;
- ✓ the logical connection of its elements one to another;
- ✓ the efficient planning of the business organization strategy on the basis of the set goals;
- ✓ the accurate translation of the strategy from goals to efficiency indicators;
- ✓ the provision of clear understanding about what is meant with each of the goals;

- ✓ the balance between the efforts and the strategic activities in realizing the mission and vision of the organization.

3.2. Elements of the model of heuristic and AI planning strategies

The heuristic methods and planning through artificial intelligence are increasingly finding their application in business management. Decisions with them are taken on the basis of the inherent for man intuition, experience, logical thinking, included as a bulk of data into systems with artificial intelligence, providing the playing of scenarios under certain restrictive conditions. Using the model of heuristic and AI planning strategies in the telecommunication sector in Bulgaria leads to identifying problems with high degree of complexity through searching and planning decisions in huge discreet spaces. The decisions in the model of heuristic and AI planning strategies are a sequence of actions from one initial condition to one or more targeted conditions.

The way from the initial condition to the targeted one comprises a system of activities, which the model of heuristic and AI planning strategies should perform under some set:

- ✓ parameters, characterizing the particular telecommunication company and the entire telecommunication sector in Bulgaria;
- ✓ goals outlining the desired results;
- ✓ target values enabling the measurement of the goals;
- ✓ tasks issuing from the strategic goals;
- ✓ indicators measuring the fulfillment of the tasks;
- ✓ strategic alternatives generated as a result of analysis and evaluation of the environment, goals, the target values, tasks and indicators, determining their feasibility;
- ✓ strategic initiatives – components of the planned strategy, representing the tactical activities on the way of its realization;
- ✓ cause and effect relations between goals, tasks, resources, planned strategy.

The strategic goals define what needs to be done with the strategy. The strategic goals set in the model of heuristic and AI planning strategies are more specific than the content of the strategy itself, yet, they are less precise than the efficiency indicators. They translate the often too generally and vaguely expressed strategic priorities into directing and action focused descriptions of what has to be done so that the planned strategy is realized.

Through the model of heuristic and AI planning strategies there are processes and measures planned for each goal, which contribute to its achievement. Defined also are efficiency indicators, which measure the extent of reaching the goal on the basis of set target values. The responsibility for achieving a certain goal or sub-goal is personalized in the form of a strategic map.

Owing to the model for heuristic and AI planning strategies, the management of the telecommunication companies in Bulgaria can monitor the extent of implementing the planned strategy and undertake the necessary corrective activities.

The model of heuristic and AI planning strategies on the one hand is a conceptual system for targeted adaptive management, which on the basis of specific parameters systematizes and summarizes the situation in the Bulgarian telecommunication sector, and, on the other hand – multiplies the basic characteristics and directions of the activity of a particular telecommunication company. This model is an important instrument of the strategic management for evaluating the potential and efficiency of a certain company, since it transforms the mission and goals into a well-balanced complex of planned integrated indicators of the strategy [2]. In its capacity of a strategic management instrument, the model of heuristic and AI planning strategies facilitates:

- ✓ the planning of the strategy for development of the telecommunication company;
- ✓ adapting the organization development strategy on each level therein;
- ✓ multiplying the strategic goals in the operational management;
- ✓ deploying system controlling mechanisms in respect to reaching the strategic goals in a current mode.

The model of heuristic and AI planning strategies has as its main goal the accumulation of added value in a telecommunication company. Thus, showing where the growth in revenue and profits comes from, it becomes a driver for value planning and managing. The main advantages provided by the model of heuristic and AI planning strategies are:

- ✓ application of the planned strategy;
- ✓ goals defining, perception and implementation;
- ✓ formulating strategic alternatives for each of the goals, whereby monitoring efficiency in a balanced way;
- ✓ identifying the factors facilitating development, where the focus is shifted from the financial indicators and the past to the development driving indicators and the future;
- ✓ undertaking prompt and efficient initiatives adequate to the occurred and/or occurring changes in the telecommunication sector.

The equality in importance and significance of all the indicators determines the level of balancing in the model of heuristic and AI planning strategies. This balance has a multi-aspect nature and comprises, integrates and focuses the relations between the financial and non-financial indicators, the strategic and operational management, the past and future results, the internal and external aspects of the activity of a telecommunication company. On this basis, the model of heuristic and AI planning strategies should project the entire production organization through planning of strategic and operational assignments within the already defined strategic goals. Being based on balancing, comprehensiveness and the strive towards efficiency, the main idea of the model of heuristic and AI planning strategies can be summarized into:

- ✓ analysis of the environment;
- ✓ generating strategic alternatives;
- ✓ evaluation of the possibility to reach the defined strategic alternatives;

- ✓ planning the strategy on the basis of strategic goals.

A number of authors [3] quite often assume that everything in the business organization should be measurable. Thus, measurability becomes a major motive of the concept for the model of heuristic and AI planning strategies, and the impossibility to manage processes and indicators, which cannot be measured, requires that all the factors important for the management of a telecommunication company should be presented in the form of indicators (markers). The relations and interactions on all the levels of the management hierarchy in the organization (from the top management level to the auxiliary units) are established in the model of heuristic and AI planning strategies, through determining their respective functional goals and indicators.

The model of heuristic and AI planning strategies is built top down, which allows for the strategic goals of the telecommunication company to be worked out in detail logically, structurally and organizationally into operational goals. Most important is the essential determination and definition of the strategic alternatives, and the main functional goals should be derived from the strategic goals of the business organization. Upon laying out the functional goals, for each goal there should be determined also the critical success factors – i.e., a certain target function is set. The model of heuristic and AI planning strategies is a powerful instrument for describing, planning and implementing the strategy. It considers the strategic alternatives as a result of series of cause and effect relations between the strategic and functional goals in a telecommunication company. The general interaction of those relations can be represented in the form of the so called strategic map [4].

The strategic alternatives can be defined as a key element in planning the strategy through which those entities are visualized, whose interests have substantial importance in the realization of the strategy. The tasks in the model of heuristic and AI planning strategies are determined by the formulated strategic goals, which are an integral part of the telecommunication company strategy. They define:

- ✓ the process of transforming the strategy on operational level;
- ✓ the set of tools used for the needs of the strategic and operational management;
- ✓ the parameters of the strategic and operational optimality.

The fulfillment of the tasks is reflected through the calculated indicators, which are also called measuring elements. These indicators determine the success or failure of the already formulated strategic alternatives and operational assignments. The accurate formulation of the measuring elements determines the form and scale in which the assignments on the operational and process level should be realized. Each of the strategic alternatives in the model of heuristic and AI planning strategies is determined and based on 3 to 5 adopted key indicators, which characterize it and define its variations in the course of achieving the planned strategic goal.

The numerical meanings of each indicator define the desired goals. With the establishment of the goals also defined are the accurate metrical values, which the indicators should assume in case the telecommunication company reaches its planned strategic goals. Within the model of heuristic and AI planning strategies there should be differentiated the indicators, which reflect the processes facilitating the obtaining of those results. Since reaching the one group of indicators fosters the realization of the others, there is an imperative need to bind those two groups of indicators.

The strategic initiatives are tactical measures, representing specific actions. They are an intrinsic component of the strategy planned with the assistance of the model and lead to reaching the goals.

The defining of the strategic initiatives as actions or a system of actions, leading to and facilitating the realization of the planned strategy, is a clear sign that in the course of the activity, they should implement the necessary connection between the strategic goals of the telecommunication company and its operational management. Behind each strategic initiative there should be planned not only an accurately formulated assignment and an action plan supporting its accomplishment, but also the optimum needed resources for reaching the required result.

The cause and effect relation binds all the tasks in the model of heuristic and AI planning strategies, both one to another, and also on the basis of the logical connection between the strategic and operational goals, plans and organizational capabilities. The total set of tasks and the preconditioned strategic and operational links between them form the map of the strategy. The cause and effect relation in the model requires that there should not be focusing only on some of the success elements, but covering the number of factors, which are compulsory for achieving that success.

3.3. Sequence of the activities in the model of heuristic and AI planning strategies

The planning of the strategy in a specific telecommunication company through the model of heuristic and AI planning strategies requires an accurate and adequate definition of the short-term, mid-term and long-term goals, which will be pursued. The implementation in the model of a mechanism for monitoring and maintaining the defined goals within the set target parameters and the differentiation of multi-variability of alternatives in planning the strategy of the telecommunication companies are the system-forming tasks in the model. The model of heuristic and AI planning strategies requires the choice and application of a strategic toolset, which should be adequate to the requirements of the contemporary strategic management model in Bulgarian telecommunication sector. On the basis of the already defined goals and the set situational parameters of the telecommunication sector and the particular telecommunication company, the model of heuristic and AI planning strategies should carry out:

- ✓ analysis and evaluation of the external environment;
- ✓ analysis of the company's strengths and weaknesses;
- ✓ analysis of the strategic alternatives;
- ✓ planning a strategy for achieving the already outlined goals;
- ✓ planning procedures, rules and budgets supporting the achievement of the goals.

Some analytical and forecasting information for the development of the external environment of the telecommunication company both at the stage of defining goals, and with its actual functioning, is acquired by the model of heuristic and AI planning strategies by performing permanent monitoring via:

- ✓ Political, Economic, Social, Technological Analysis;
- ✓ Industry Analysis;
- ✓ Competitive Analysis;

- ✓ Strategic analysis of Porter, Dewhurst and Burns;
- ✓ Competitor Profiling;
- ✓ Pressure Analysis;
- ✓ Key Success Factors Analysis.

The analytical techniques, which determine the planning by the model of heuristic and AI planning strategies and obtain information about the internal environment of the telecommunication company are:

- ✓ Strategic Product Analysis;
- ✓ Analysis of the Boston Consulting Group;
- ✓ Value - Chain Analysis;
- ✓ Ratio Analysis;
- ✓ Strategic Position Analysis;
- ✓ Vulnerability Analysis;
- ✓ Critical Success Factors Analysis;

The strategic research of the external and internal environment through identification and summarization by the model of heuristic and AI planning strategies of the most critical established trends, outlines the specific situation in which the telecommunication company functions. This situation requires the systematization and operationalization of the main steps through which the telecommunication company will generate and realize its advantage, i.e. to evaluate the position on which it is, and hence, plan a strategy. Such a more systematic and wide range of scanning can be done by the model of heuristic and AI planning strategies through the SWOT-analysis, which is clear, analytical, synthesized and flexible instrument for situational analysis.

The analysis of the strategic alternatives in a telecommunication company can be done through a matrix, which positions the organization in four sectors (table 1.), according to its competitive positions and its growth on the market.

Table 1. Matrix determining the positions of a telecommunication company

| | | COMPETITIVE POSITIONS | |
|---------------|----------------------|-----------------------|------------------|
| | | strong positions S | weak positions W |
| MARKET GROWTH | accelerated growth R | sector SR | sector WR |
| | delayed growth S | sector SS | sector WS |

On the basis of the matrix and the combination of the explicit and implicit influence of internal or external operations, of related or non related actions, horizontal or vertical changes, proactive activities or lack of activities, there is a “tree of alternatives” being elaborated within the process of strategic management, which facilitates the search for the most appropriate strategic alternative (table 2.). Alternative options for planning a strategy are searched through it.

Table 2. Tree of the strategic alternatives in a telecommunication company

| STRATEGIC GOALS | STRATEGIC ALTERNATIVES | FIELD OF CHANGE |
|-----------------------|------------------------|---------------------------------------|
| FIRST STRATEGIC GOAL | increasing | size; scale |
| | decreasing | merger; take over |
| | concentrating | resources; manufacturing |
| | integrating | capital |
| | diversifying | products; markets |
| SECOND STRATEGIC GOAL | balancing | capacities; deliveries |
| | rationalization | operations; technological rules |
| THIRD STRATEGIC GOAL | modification | conditions; technological rules |
| | regrouping | working functions and/ or processes |
| | renewal | products; technologies |
| | recovery | finance; manufacturing |
| | reduction | expenses; manufacturing; personnel |
| FORTH STRATEGIC GOAL | transformation | separation; merging in |
| | isolating | subsystems |
| | liquidation | assets; participation |

The model of heuristic and AI planning strategies as a particularly complex and dynamic process, integrating in itself strategic management through its main management functions, requires both planning of a strategy for achieving the set goals, and analyzing the reasons for the occurring of deviations and risks in the telecommunication company. The technology of this choice of strategy requires:

- ✓ identification of the strategic alternatives;
- ✓ choosing representative criteria or criterion;
- ✓ determining their importance;
- ✓ evaluating the usefulness of each alternative under the different criteria;
- ✓ calculating the weighed evaluation of the usefulness of each alternative;
- ✓ ordering the strategic alternatives according to their priority.

4. CONCLUSIONS

The conditions of contemporary management in the telecommunication sector require a new approach, which should get rid of the short-term concept and take management beyond the traditional planning of a strategy. This new approach needs the integration of information in respect to how well a telecommunication company copes with the challenges it is facing and how it will be positioned on the market tomorrow.

The model of heuristic and AI planning strategies plays the role of a strategic instrument for the solution of such management-challenges, where its introduction would lead to the reduction of:

- ✓ the time for gathering, processing, analyzing and evaluating the information necessary for the strategic planning and goal setting;
- ✓ the time for communication and decision making;
- ✓ the resource consumption;
- ✓ the risk.

The higher objectivity and reliability of the management process, the personalization of services, and reaching optimality and higher added value on that basis, not only in respect to management, but also in respect to the actual production process, are the other competitive advantages, which the telecommunication companies using the model of heuristic and AI planning strategies have. The arguments in favour of using this model in outlining the strategic alternatives of the telecommunication companies can be summarized primarily to the possibility to achieve a tangible competitive advantage and leadership in the sector through fast, adequate and reliable measuring, reporting and evaluating at the same time:

- ✓ the success of the business organization as a whole;
- ✓ the financial status and capacity;
- ✓ meeting clients' expectations;
- ✓ the structure of the internal processes;
- ✓ the development of the company in the future.

Through the model of heuristic and AI planning strategies in an abstract strategic model are combined the long-term and short-term goals in a single balanced evaluation of the generated strategic alternatives. This enables the obtaining of information, which is as complete and accurate as possible, concerning the strategic condition and market position of the telecommunication company, and achieving on that basis competitive advantage and leadership on the telecommunication market in Bulgaria.

In view of achieving leadership, the telecommunication company's management should be studied, analyzed and evaluated in a specific context, determined by the logic dictating the integration of the financial indicators with other aspects, illustrating the entire activity of the organization. The model of heuristic and AI planning strategies is the toolset, which providing a measuring instrument for the achievement of the goals, evaluates the most acceptable of them and plans the strategy by ensuring for the organization not only considerable competitive advantages, but also added value for it, for its users and investors.

The leadership achieved through the application of the model of heuristic and AI planning strategies identifies the telecommunication companies in the sector as such having indisputable competitive advantages, and the services offered by them are differentiated from the services of the competitors. The leadership in the sector of telecommunications is a result not only of a flexible, adaptive and creative strategy. It is related to and also results from the specific conditions of the environment in which the telecommunication sector exists and develops. On this basis, the leadership of the telecommunication companies in Bulgaria is determined by their capability to maintain their position on the market and improve their share over time by adding value not only in the financial aspect, but also in respect to their brand. This, however, is possible in the contemporary conditions only and solely if management relies on speed, adequateness,

reliability and reduced resource consumption provided by the innovative toolset of the model of heuristic and AI planning strategies.

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