

FUNCTIONAL MODEL OF THE MANAGEMENT SYSTEM FOR THE DEVELOPMENT OF INNOVATIVE POTENTIAL OF AIRLINE COMPANIES ON THE BASIS OF MARKETING CONCEPT

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Abstract. The article is devoted to the improvement of management of the development of the innovation potential of airlines, which ensures their competitiveness in the global market. The solution to the problems caused by the need to update systems and processes in response to rapid changes in market conditions and the emergence of new technologies is seen as possible through marketing concepts and their tools, which are an integral part of the model of managing the development of innovation potential. The *aim of the study* is to improve the scientific approach to the formation of a model for the development of the innovation potential of an airline company based on marketing concepts. *Methodology.* The suggested scientific approach to the formation of a model for the development of the innovation potential of an airline company is based on a study of marketing concepts, which are enclosed in the framework of A. Osterwalder and I. Pinier, based on the phased configuration of the innovation process and taking into account the coverage of functional blocks of innovation development, value proposition formation and implementation of innovations by modern marketing tools of airline companies, integrating the possibilities of developing innovation potential with the needs of the air transportation sector market. *As a result of the research,* it is proved that the conceptual basis of the functional model for the development of the innovation potential of an airline enterprise is within the holistic concept of marketing, and digital marketing has a conceptual impact on almost all stages of the functional model and is manifested in certain digital marketing tools, contributing to reducing complexity and increasing predictability in the processes of managing the consumption of innovations, prices for innovative products and services, monitoring consumer behavior, partnerships, etc. In addition, the scientific approach to the formation of a model for the development of the innovation potential of an airline company based on marketing concepts is based on the target benchmarks of the sustainable development strategy (macro-marketing concept), the development of value propositions (service dominance theory) and the imperatives of increasing competitiveness and financial success (competitive advantage theory). The *practical significance* of the results lies in the contribution to the understanding of the use of marketing mechanisms in the process of innovation and emphasizing the need to change the traditional paradigm of airlines' functioning, directing it towards innovative development and achieving competitiveness with a focus on customer needs. *Value/originality.* The improved scientific approach actually creates a comprehensive theoretical and organizational basis for marketing of innovations of airline companies and will contribute to the effective implementation of marketing support for the development of innovation potential.

Key words: model, development, innovation potential, concept, marketing, airline company.

JEL Classification: L93, M31, O31, O32

1. Introduction

Airlines today need a model for managing the development of innovation potential that ensures competitiveness in the global market due to a number of problems caused by the need to update their systems and processes in response

to rapid changes in market conditions and the emergence of new technologies. Marketing concepts and their tools are an integral part of the innovation potential development management model, as they accompany the stages of the innovation process.

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The content of the functional model of development of the innovative potential of an enterprise is widely studied by domestic authors. T. A. Alyoshina, N. O. Fisunenکو, O. A. Sydorov (2022) distinguish the following models of innovation development: a model of state support, a model of local innovation environment, a model of intra-sectoral clusters, a model of intersectoral scientific and technical complexes, and a mixed model. This approach to the classification of innovation development models describes the aspect of interaction in the implementation of the innovation process. Aviation companies around the world form an innovation model based on a mixed approach, since international organizations regulating the aviation sector form a certain inter-sectoral scientific and technical complex, including cooperation with state governments, but the local innovation environment also plays a significant role in the development of the innovation potential of airlines. T. V. Nagachevska and O. Y. Pryhara (2018) distinguish: a model of supply of innovations; a model of demand for innovations; an interactive model; a model of integrated business processes; a network model of innovations; a model of "open" innovations. The authors emphasize the role of demand as the driving force of the enterprise's innovation processes, highlighting the limitations of the innovation demand model: the high cost of market analysis, the unreliability of its results, and the need for available material and personnel support. Therefore, the emphasis is placed on the use of complex (integrated, interactive and network) innovation models based on innovation cooperation (Nagachevska, Pryhara, 2018). H. O. Shvydanenko and K. S. Boichenko (2017) also emphasize that the model of innovation potential development should be based on consumer demand, which forms the basis of the feasibility study for the need to implement a business model. Thus, researchers of innovation models agree that it should be based on marketing markers and concepts.

The aim of the study is to improve the scientific approach to the formation of a model for the development of the innovation potential of airline company based on marketing concepts. The suggested scientific approach to the formation of a model for the development of the innovation potential of airline company is based on the

canvas of A. Osterwalder and I. Pinier (2010), based on the phased configuration of the innovation process and taking into account the coverage of functional blocks of innovation development, value proposition formation and implementation of innovations by the modern marketing tools of airline companies, integrating the possibilities of developing innovation potential with the needs of the air transportation sector market.

2. Determination of Strategic Goals and Objectives of the Functional Model of Development of the Innovative Potential of the Airline Company

With regard to focusing on the innovation potential and marketing support for its implementation, the following definition can be given to the functional model of development of the innovation potential of an airline company – a systematic coordination of dynamic compliance (verbal or graphical) of the internal capabilities of the airline company and market requirements (migration of demand and values of consumers, proposals of innovation developers) through marketing methods and tools for commercialization of innovations in a more effective form and way than competitors.

The formation of a functional model for the development of the innovation potential of an airline company, as follows from the suggested definition, begins with the determination of strategic goals and objectives, which are based on imperatives of the sustainable development strategy (social, environmental, economic); imperatives for the development of value propositions of air transportation services; imperatives to increase competitiveness and financial success.

The imperatives of the sustainable development strategy are an attribute of a modern airline and the basis for a wide range of innovations, as well as for positioning as a socially responsible enterprise at the request of society. These imperatives are determined by the concept of macromarketing, which, according to Y. V. Robula (2020), is a reflection of "the impact of the processes and results of the functioning of marketing systems on society and its subsystems, and... the impact of society and its subsystems on the development of marketing systems" (Robula, 2020). Details of sustainable

development benchmarks are also contained in the conceptual framework of socially responsible marketing developed by domestic authors (Karbovska, Bratus, Vasyutkina, 2019), some components of which may be called environmental marketing, green marketing (marketing based on environmental factors and the use of environmentally friendly products and services), social and ethical marketing (focused on society as a whole), cause marketing (market positioning of the company based on solving socially significant problems, corporate social responsibility).

The imperatives for the development of value propositions of air transportation services are formalized through the theory of dynamic service, according to the axioms of which values are formed through coordination and cooperation with consumers and institutions (Vargo and Lusch, 2016) and take into account the migration of such values.

The imperatives of increasing competitiveness and financial success are determined by the theory of differentiated competitive advantage (Alderson, 1964), the dynamic theory of competitive rational behavior (Dickson, 1992) and allow us to understand the target benchmarks in outperforming competitors to make a profit.

3. Marketing Information Systems in the Model of Development of the Innovation Potential of an Airline Company

The analysis of the external and internal environment of the airline's functioning is based on marketing information systems, the conceptual foundations of which were laid down by F. Kotler and G. Armstrong (1991), D.A. Aaker and V. Kumar (2000), implemented in the Global Marketing Information System (GMIS) and updated by foreign scientists (López-Bonilla, López-Bonilla, Peña-Vinces, 2015). The purpose of such market research is to find unmet customer needs, new market niches, innovative developments and the possibility of their adaptation to the needs of consumers. Thus, the tools of the digital marketing concept are also the basis for marketing research through digital channels, which "play the role of 1) a provider of information, 2) a logistical role – placing survey forms, storing and automated data analysis..." (Robul, 2020). Given the above, the tools of this stage of the model are data

science. Along with the spread of the digital marketing concept, some airlines continue to face data management challenges, as collecting and accurately analyzing large amounts of data from many sources is a complex and time-consuming process.

This stage can also be based on the Kohli-Jaworski marketing orientation and Nerver and Slater's MKTOR market orientation models ("promotes the development and embedding of skills at both the individual and organizational levels that enable the regular creation of the greatest value for customers, including in new markets and industries, and thus ensures the best performance and efficiency of the organization in the long term" (Robul, 2020)).

4. Functional Blocks of the Model for the Development of the Innovation Potential of the Airline Company and Their Marketing Support

Further development of the strategy for the development of innovation potential is considered expedient to outline through the Business Model Canvas by A. Osterwalder and I. Pigneur (Osterwalder, Pigneur, 2010), which consists of the following blocks.

Customer Segments – is based on the concept of STP marketing (segmentation, targeting and positioning steps) and allows to highlight the demand for airline innovations. The types of marketing in this block can be:

- mass or concentrated marketing, personality marketing, niche marketing, or personalized marketing, depending on the airline's resource capabilities to meet new mass needs or the needs of one consumer segment. Examples of modern airlines demonstrate the successful experience of both tools;
- neuromarketing and sensory marketing tools in this block are used to study customer behavioral reactions and the impact of innovations on customers' emotions and feelings in order to target innovation policy.

Value propositions should be formed on the basis of the POP/POD concept, which allows to identify mandatory and differentiating elements of innovative propositions from competitors. Such distinctive value propositions may include proposals to improve aircraft performance, provide value through in-flight experience with in-flight entertainment, service differen-

tiation, loyalty programs, self-service, reduced transaction time and greater connectivity of the route network, business intelligence, new pricing and training methods, partnerships for cooperation and rebranding. At the same time, safety and environmental innovations are almost mandatory value propositions in the air transportation market. The current value proposition in the innovation activities of airlines is contained in the parameters of the marketing mix: personalized service and in-flight entertainment (marketing markers of response and relevance); multifunctionality and differentiation of services; rewards; and ensuring environmental and safety of air transportation.

The basis for creating product values is creative marketing (aimed at finding unique offers to meet customer needs), benchmarking (allows you to compare your value proposition with competitors and use their best practices), Loyalty marketing (enables the practice of increasing and retaining existing customers through innovative incentives).

Multisensory marketing tools (influence on the complex of sensations), time marketing (influence on saving the client's time), Experiential marketing (marketing of impressions) are used to help in the formation of special value propositions.

Channels, which enable timely satisfaction of customer needs and are based on the 6Cs concept: costs; control; market coverage; investments to create a channel; channel nature; and stability. The innovative approach in this block is based on both effective distribution of innovative services and finding more efficient solutions in the identified distribution channels.

Customer relationships help maintain loyalty, build relationships with customers and obtain valuable data on their requests for new needs based on feedback. Customer relations for innovative offers can be built on the basis of the traditional CRM (Customer Relationship Management) concept, the INTOR (customer response, customer engagement) model, and the digital marketing concept, as it involves the use of new integrated systems, new software or websites, and new self-service equipment.

The types of marketing in the customer relations and distribution channel blocks include interactive marketing with customer participation, content marketing as

a set of marketing techniques for creating and or promoting information about airline innovations to attract potential customers.

While a few years ago, marketers used omnichannel marketing tools, today's communication practice is based on omnichannel marketing, which emphasizes the integrated, interconnected use of communication channels to interact with customers.

There is also a shift from the predominant use of SMS marketing and telemarketing to the use of digital technologies: New Media Marketing, Social media marketing, E-mail marketing, Wi-Fi marketing, Blog marketing. As the analysis of the implementation of marketing support for the development of the innovation potential of the world's airlines has demonstrated, promoting sales through online channels using elements of new media, attracting consumers through social networks and email newsletters is an effective practice of innovation marketing today.

Revenue streams depend on the formation of pricing policy for innovative products, as well as on the effective application of continuous pricing methods, i.e. the basis of the block are the tools of the digital marketing concept, which allow you to set prices in real time, based on market parameters, and the concept of the "magic triangle" of pricing policy by S. H. Tucker.

Marketing in this block includes generating revenue from additional innovative à la carte services. As airfares fluctuate due to the supply and demand balance, additional revenues can help stabilize cash flow and increase profitability in times of market uncertainty. Both the à la carte tool and BNPL are based on behavioral marketing, conversion marketing, incentive and supportive marketing, which provide methods and techniques to motivate purchasing behavior in conditions of uncertainty that are typical of the innovation stage, as well as in cases of negative demand.

The Key resources, Cost structure and Key activities blocks provide for continuous monitoring of the availability and price of key resources for the production stage of the innovation process and control over its effective implementation. Resources include technological and technical capabilities, as well as the availability of human and financial resources. The marketing concepts relevant to this block are: the concept of inventive marketing (creative

marketing), the concept of Total Quality Management (TQM), the concept of Business Process Reengineering (BPR). At the same time, airlines can focus their functional model on innovations borrowed from benchmark enterprises, or they can introduce innovative services that are fundamentally new to the market. Of course, in the latter case, the effect of developing the innovation potential will be higher due to the uniqueness of the value proposition, but this approach also requires more investment resources (costs) at the R&D stage.

Innovative methods of personnel management are also important in this block, as the organization should aim to provide employees with internal knowledge to form a new value proposition and involve them in the innovation process. Often, the methods that activate these aspects are knowledge sharing and training programs, the creation of databases with best practices, lessons learned, and some other knowledge.

Employee marketing is a systematic approach to managing internal communication and successfully engaging staff in achieving the goals of the airline's innovation activities. Integrated marketing makes it possible to unite all departments of the airline in the process of innovation, and the Agile marketing tool makes such an association flexible, allowing for more efficient spending of the innovation project budget.

Key partners need marketing support for activities based on strategic partnerships, in particular within the concept of partnership/relationship marketing (involves the formation of long-term relationships between business partners on a mutually beneficial basis (Struk, 2018)). It is possible to state that cooperation and collaboration with the digital technology industry affects the formation of the innovative potential of airlines' services and operational processes. However, such cooperation is mutually beneficial: the mobile app industry benefits from improving the functionality of its applications, expanding the reach of airline passengers; integration with social media developers benefits from partnership with airlines in terms of expanding their reach and providing their members with unique opportunities for communication and learning while traveling.

Joint partnerships and strategic cooperation in the field of airline cabin design are based on

the use of joint marketing campaigns, including co-branding, to help attract customers and increase their loyalty. One of the most prominent trends in recent years has been the creation of new strategic alliances between airlines and participation in international organizations (such as IATA and ICAO) to search for innovative ideas, opportunities and suppliers of such technologies. This allows airlines to enter new markets and respond flexibly and quickly to consumer demands by jointly investing in innovative initiatives.

As for partnership marketing, it is worth noting the role of affiliate marketing and cross-marketing tools that make cooperation between manufacturers of innovative offers and airlines mutually beneficial, allowing them to generate sales, attract more new customers and increase brand awareness. Account-Based Marketing (ABM) is also useful for cooperation between innovation developers and airlines, as it implies that innovation developers focus on the needs of a particular airline and the needs of its customers. Accordingly, in this case, the airline will have easier access to innovative products.

Implementation and calculation of the effectiveness of the innovation potential realization is the last stage of the proposed functional model. At this stage, it is appropriate to apply the concept of benchmarking based on the company's positioning in terms of indicators of innovation potential development, key performance indicators (KPIs) of innovation development, as well as the qualimetric approach to such an assessment, since it allows for objectivity and scientific validity of the experts' assessment. At this stage of model formation, it is possible to use performance marketing tools to achieve measurable results (KPIs) in the shortest possible time.

In general, the conceptual framework of the functional model for the development of the innovation potential of an airline enterprise is based on the holistic concept of marketing, and digital marketing has an impact on almost all stages of the functional model, which is ensured by comprehensive innovation marketing tools. A generalization of the conducted research on improving the conceptual basis of the model for developing the innovation potential of an airline enterprise based on a marketing approach is shown in Figure 1, and the directly developed model outline is shown in Figure 2.

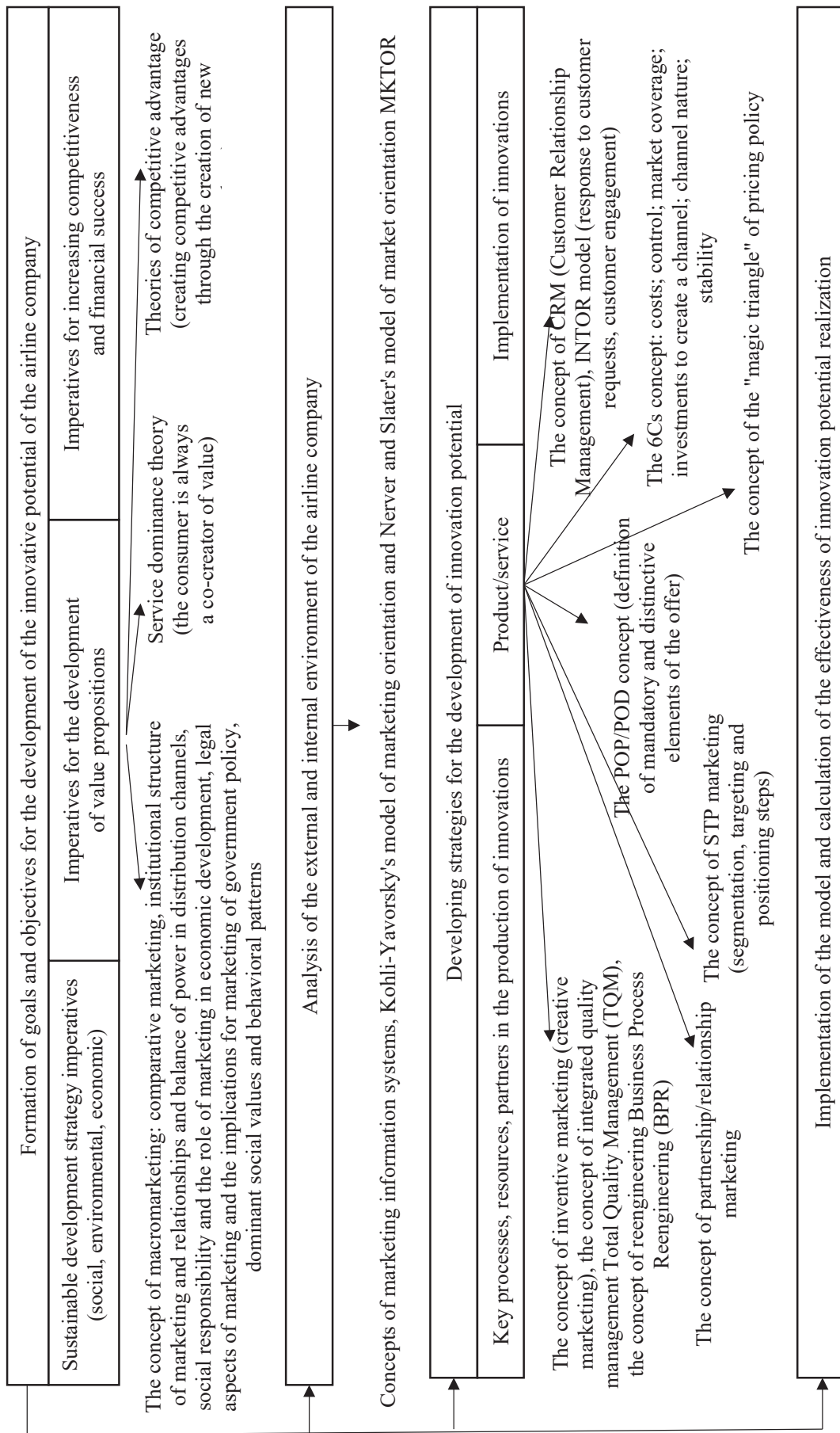


Figure 1. Conceptual basis of the model of development of the innovative potential of an airline company based on the marketing approach

Source: improved by the author

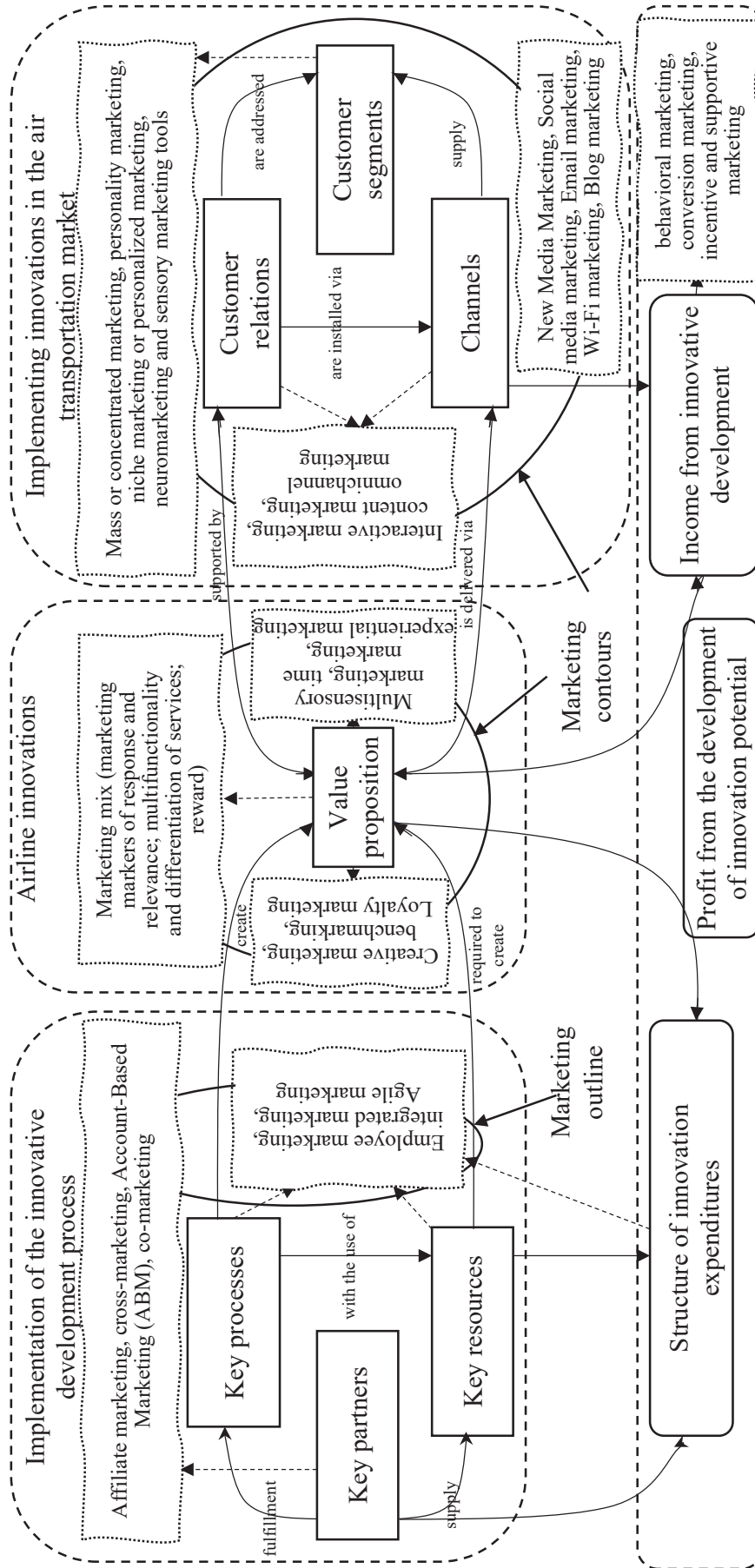


Figure 2. Improvement of the functional model of A. Osterwalder and I. Pinier for the development of the innovative potential of the airline based on the types of marketing activities

Source: improved by the author

5. Conclusions

The proposed scientific approach to the formation of a model for the development of the innovation potential of airline company based on marketing concepts is formed on the basis of the canvas of A. Osterwalder and I. Pinier, however, unlike existing approaches, it proceeds from a phased configuration of the innovation process based on marketing concepts, takes into account the coverage of functional blocks of innovation development, value proposition formation and implementation of innovations by the modern marketing tools of airline companies, integrating opportunities for developing innovative potential with the needs of the air transportation market. The improved scientific approach actually creates a comprehensive theoretical and organizational framework for marketing innovations of airline enterprises and will contribute to the effective implementation of marketing support for the development of innovation potential.

The scientific approach to the formation of a model for the development of the innovation potential of an airline company based on marketing concepts is based on the targets of the sustainable development strategy (macro-

marketing concept), the development of value propositions (service dominance theory) and the imperatives of increasing competitiveness and financial success (competitive advantage theory). Thus, the research has proved that the conceptual basis of the functional model for the development of the innovation potential of an airline company is within the holistic concept of marketing, and digital marketing has a conceptual impact on almost all stages of the functional model and is manifested in certain digital marketing tools, contributing to reducing complexity and increasing predictability in the processes of managing the consumption of innovations, prices for innovative products and services, monitoring consumer behavior, partnerships, etc. The research results make a scientific contribution to the understanding of the use of marketing mechanisms in the process of innovation and emphasize the need to change the traditional paradigm of airlines' functioning, directing it towards innovative development and achieving competitiveness with a focus on customer needs.

The prospect of further developments can be determined by detailing the marketing tools to ensure the development of the innovative potential of airline companies.

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