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## Improvement of the Marketing Interaction based on Information Technologies

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### Abstract

*The article reveals the essence of the technological architecture and shows its place in the informational and technological architecture of an integrated management system of marketing interactions specific technological solutions in marketing interaction management of commercial enterprises in various formats are revealed.*

**Keywords:** information technologies, marketing interaction, information and technological architecture in management of processes of marketing interaction

**J.E.L. classification:** M15, M31

### 1. Introduction

Under the modern conditions the institute of eBusiness develops rapidly, that changes the nature of a market economy and generates new key success factors. One of the main objectives of the integrated management system of marketing interaction is to develop information and technological architecture that focuses on the adaptation and integration, provides an effective information interaction and coordination of marketing interaction activities.

Analysis of the problems of information and technological support of companies marketing activities was made in researches of local scientists: Alacheva T.I.[1], Balabanova L.V.[1], Voytchak A.V.[2], Pintchuk N.S.[3], Galuzynsky G.P. [3], Orlenko N.S. [3] etc.

As rightly noted by scientists, «IT development processes and systems require a transition to a new, multidimensional understanding of information processes, the

social role of the information resource» [4, c.120-121]. One of the major problems of modern control theory, according to these authors, is to develop an information model that would ensure the viability of the enterprise in a constantly changing and complex environment in which it operates [4, c. 120].

Despite the large amount of researches being conducted in this area, such issues as the development of effective technological solutions for retailers of various formats remain open.

Therefore, the aim of this article is to develop the technological architecture, focused on the adaptation and integration, that provides effective information interaction and coordination of marketing interaction activities.

### 2. Contents

As rightly consider O.V.Danilin and A.I.Slusarenko, «attempts to define and build a basic IT system without guidance on the concept of enterprise architecture usually leads to duplication of effort and, mostly important, accompanied by difficulties at the interfaces interaction and, consequently, prevent the integration of different systems» [5].

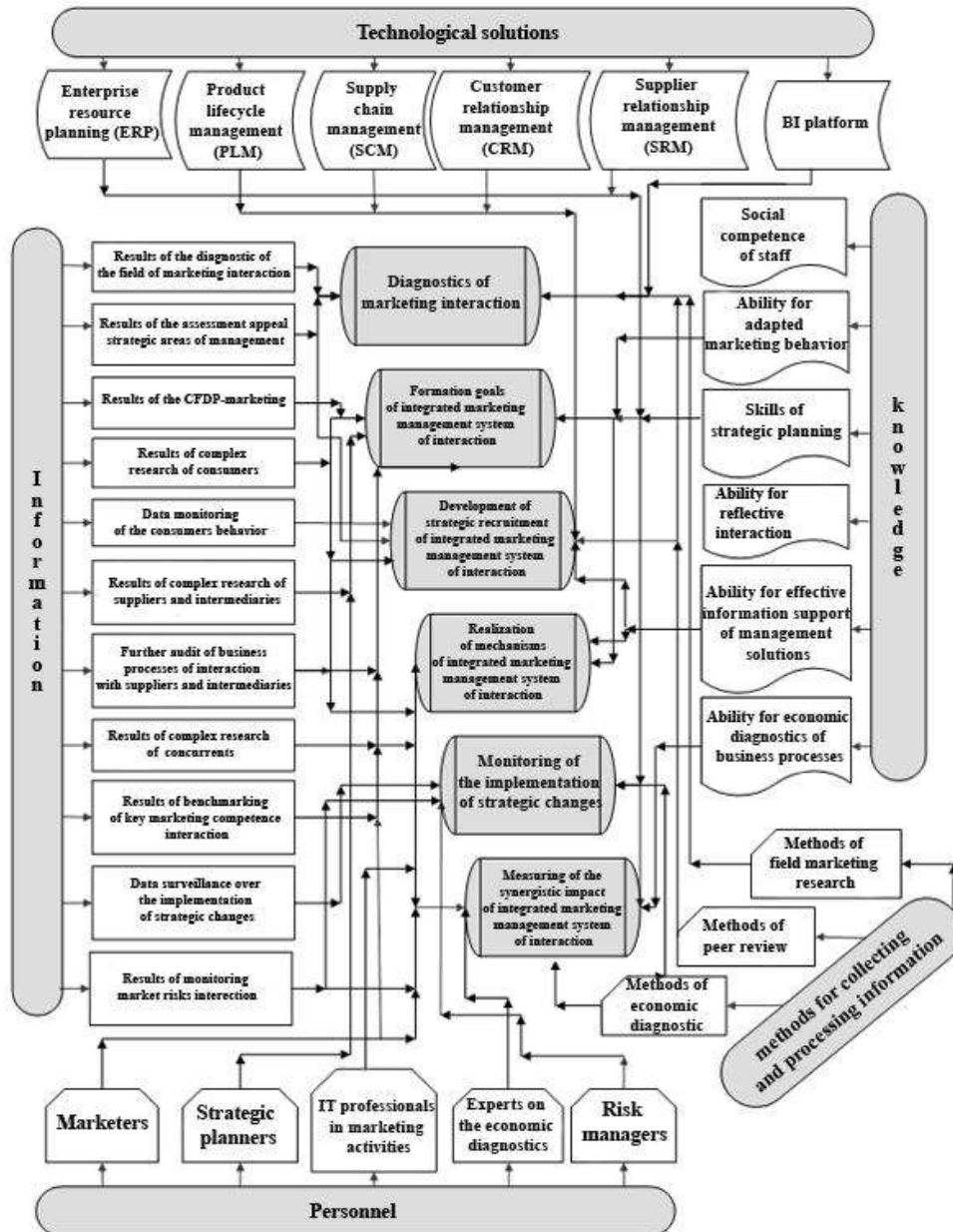
The technological architecture should be seen as a key component of the information and technology architecture of the integrated management of marketing interaction system, which is the main mechanism of the interpretation and implementation of goals in the field of management of company marketing interaction through adequate IT infrastructure. The necessity in the formation of technological architecture of marketing

interaction integrated management appears, when many enterprises face essentially significant problem of synchronization purposes and tasks of business processes and development of their information and technological capabilities.

The technological architecture in integrated marketing cooperation

management should ensure the development of complex technology solutions in following areas: Enterprise resource planning (ERP), Product lifecycle management (PLM), Supply chain management (SCM), Customer relationship management (CRM), Supplier Relationship Management (SRM) (Figure1).

Figure 1. Block diagram of structural relationships in the IT architecture in terms of key processes integrated management of marketing interactions.



Development of the technological architecture involves building of technological infrastructure that provides a «pass-through» operational business processes support at all stages of the integrated management of marketing interaction and a portfolio of a software products, that analyze the information according to specific functional requirements.

To solve marketing problems in each of these areas, commercial enterprises can use specialized software products. For complex solving of recourse management problems major trading enterprises should use these technological ERP-class solutions as: Microsoft Dynamics AX, Sage ERPX3, Oracle JD Edwards EnterpriseOne, SAP Business Suite.

For commercial SME it is advisable to use an integrated comprehensive enterprise management system: ERP ASTOR: Shop for your platform «1C: Enterprise 8», ERP

ASTOR: Trend Shop, SAP Business One. In order to manage relationships with customers and suppliers companies use CRM-, SRM- and SCM-decisions both within the integrated ERP-systems and local programs. So, retailers can implement a full-blown CRM-project using software ITOGO! RetailSuite, that has automated segmentation processes, analyzes their advantages; develops loyalty programs of the contact center, SMS-communications, sales, service, internet sales and internet service etc. As a local domestic SCM-solution noteworthy software «Quasar-Micro», offering Web-based software for the organization of e-business.

The characteristics of systems and software products, that can be used by enterprises of different formats, depending on the scope of their activities directed on formation of technological architecture, which supports solving marketing interactions problems are presented in **Table 1**.

*TABLE 1. Characteristics of systems and software products, which can be used by enterprises to form technological architecture that supports solving marketing interaction problems*

Systems and Packs software	Characteristics	Technological Platform	Enterprises
1	2	3	4
<b>Information system «Best-Marketing»</b>	<b>Information system «Best-Marketing»</b> offers specific recommendations to improve the situation of firms in the market using the following analytical methods of marketing: SWOT-analysis, development Ansoff matrix for product positioning in the market, development 4P strategy, using Rosenberg models.	Windows environment	SME
<b>Program complex «Galaxy»</b>	<b>Program complex «Galaxy»</b> (manufacturer corporation «Galaxy») is an integrated information system standard MRP-II with elements of ERP. Modular architecture «Galaxy» helps you to build the enterprise management technology that covers all elements of the business.	Windows environment Database management system «Atlantis»	Large enterprises
<b>Information system «Marketing Expert»</b>	<b>Information system «MarketingExpert»</b> can be used for development of strategic and tactical marketing plans interaction and control the execution of these plans. Marketing planning is based on the application of GAP-analysis, SWOT-analysis, Portfolio-analysis.	Windows environment	SME, large enterprises

<p><b>Integrated enterprise management system «IT- Enterprise»</b></p>	<p><b>Integrated enterprise management system «IT- Enterprise»</b> (creator Scientific-Production Enterprise «Information Technologies» Kyiv) is an integrated fully functional MRP-II-system, that provides a full management of material, production and financial resources, supply planning, production and sales, planning capacity of utilization; describe the technologies and standards, quality control of products. The system allows you to track the mechanisms of interaction with customers.</p>	<p>Platform MSSQL</p>	<p>Large, medium enterprises</p>
<p><b>Automation control system «DeloPro»</b></p>	<p><b>System «DeloPro»</b> (developer Ksykom software, Kyiv) automates key business processes and operations related with the trade agreements and the formation of a commercial workflow, analyzes the activity of business enterprises. The system has the following features: sales management, procurement, manufacturing, finance, accounting, accounting of goods, inventory control, accounting contractors, price lists, statistics, Web-extension.</p>	<p>Platform MSSQL  MSOLAP Services</p>	<p>SME</p>
<p><b>Information system for customer relationship management «SAIL- Management and Marketing»</b></p>	<p><b>Information system for customer relationship management «SAIL- Management and Marketing»</b> («SAIL Corporation») is an analytical CRM-system for the management of marketing interaction with consumers. The system allows you to improve customer service through a process of various divisions coordinats work and preserves information about the history of each customer. The database system stores the information about the relationship with customers at all stages of the marketing interaction life cycle with them.</p>	<p>Windows environment</p>	<p>SME, large enterprises</p>

A special place in the firms technological architecture must hold information processing technologies such as Digital Signal Processing (DSP) technology online analytical processing (OLAP - On-Line Analytical Processing); technology for automating business processes (EDMS - Enterprise Document Management System); ITDM technology of data mining (DM-Data Mining); technology that extracts data from the new non-trivial knowledge in the form of patterns, relationships and laws (KDD - knowledge discovery in databases).

The key concept of understanding the role of information and technology architecture for the interaction of enterprise marketing management is the concept of «chain of added value» that the proposed M. Porter in

his book «Competitive Advantage». In the analysis of the enterprise Porter recommends to stop thinking in terms of organizing the distribution and offers to focus on business processes and create additional value chains that cross organizational framework, the boundaries of departments and functional entities. A string of additional cost includes all business processes that must be performed on receipt of orders from customers for delivery of the final product.

Channel marketing interactions company that operates on principles of «value-added chain» M. Porter, covers all required business process cycle marketing interactions to ensure the highest level of customer satisfaction, which necessitates the formation

of a comprehensive area information interaction.

The information and technology architecture in an integrated management system of marketing interaction (IT architecture IMSMI) is a general model of information marketing interaction that determines the strategies, technologies, processes, information support of business in marketing interaction.

The development of IT architecture IMSMI should ensure the implementation of important features of the integrated management system of marketing interaction:

- Formation of relevant information capital portfolio for the companies and its effective use;
- Ensuring of active information exchange between business systems of marketing interaction based on the integration of information;
- Implementation of the appropriate information security policy;
- Synchronizing of business processes of marketing interaction and information technologies.

The information technology architecture is based on service-oriented approach. The services are stand alone functions and function blocks (such as «building applications for the purchase of goods», «request for information on the balance of goods in stock», etc.), the according to which is made via well-defined stable interfaces. To maintain specifications and descriptions of services in the IT architecture IMSMI, it is provided as so-called repository service that stores addresses access to each of the registered services, its location in the network, rules of the call, etc. Repository enables to use needed services and helps make necessary applications to solve specific problems in marketing interaction.

Creating the technological architecture on the enterprise is associated with significant costs - not only buying of these products or software development, but also an acquiring of technical equipment, the creation of information infrastructure, reengineering of business processes and staff training. That is why the majority of medium and small enterprises for information technology supports the processes of interaction marketing strategies should use IT outsourcing, based on the use of SaaS-

Technology (Software as a service). As a SaaS-products of domestic enterprises the addition Predictix «Cloud», «cloud» system management tasks and projects of Russian company «Megaplan», «Virtual office» of Ukrainian company «Astelit» can be recommended. However, it should be emphasized that domestic trade enterprises for their transfer to the «cloud» technologies should solve not only technical problems (relative with internet speed), but also business transparency problems, psychological barrier: it is necessary to be ready to keep data of remote servers.

### 3. Conclusions

The impact of information technology on the quality of the marketing tools of interaction can have very serious consequences: define the scope of marketing activities and marketing field boundary interactions alter the fundamental principles of marketing behavior interactions, and provide a number of new tools of competition, shift emphasis in marketing relationships with separation on mergers.

Thus, we can conclude that an important prerequisite for a comprehensive and operational performance of all functions of the integrated management of marketing interaction system is to develop information technological architecture, the main component of which is the technological architecture that improves the ability of the enterprise in the effective implementation of marketing strategies interaction through the synchronization of marketing interaction business processes and information technologies.

Prospect for further researches in this direction is the study of technological solutions for the marketing relationships management of companies on various platforms of interaction: with customers and business partners.

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