

Special aspects of the integrated database model formation in the sphere of marketing competence management of enterprises

Problem definition and its connection with important scientific and practical tasks. Under current conditions of dynamism increase of the external market environment, appearance of new forms of competition, active development of information and computer technologies which is customary for functioning of the native enterprises, possibility of working efficiency increase due to only internal processes are have already depleted. The following development of the existing forms and methods of business-processes realisation is possible only subject to integration of the functions of various subdivisions, contractors of an enterprise directed to realisation of client-centric approach. In these terms there is a necessity of creation of the integrated database at an enterprise directed to satisfying the requirements in the receipt of complete, relevant and actual information for making reasonable decisions in the process of marketing competence management.

Analysis of the latest research studies and publications, allocation of the earlier unsettled parts of the general problem. Without regard to actuality of this problem, there is no one-for-all approach for application and structuring of the term "database" in literature. Some authors use different concepts "informative repository", "data warehouse", "knowledgebase", "corporate knowledgebase", "database". In addition, the issues related to essence and contents of database for enterprises are not traversed sufficiently, especially in the sphere of marketing activity.

The following scientists dealt with the matters of database creation at an enterprise: Izbachkov Yu.S., Petrov V.N.[2], Kornieiev I.K., Ksandopulo H. N.[3], Oksanych A.P., Petrenko V.R., Kostenko O.P [4], R. Riordand [5], Tverdokhlib M.H.[6], Tytorenko H. A., Makarova H. M., Daiitbehov D.M. [1] and others. Meanwhile the notion of the integrated database is not considered in the foreign and native literature without regard to its topicality and significance for client-centric activity of an enterprise.

Purpose of the article is to elaborate recommendations concerning formation of the integration database in the sphere of marketing competence management for commercial enterprises on basis of the proposed model.

Statement of the primary data for study. The integrated database must use the unified information database at all levels of enterprise management (by the group of enterprises or trading network), provide a remote access and multi-aspect search to the present arrays of information, to work in real-time mode, to have the developed analytical part and to provide the automated integration of these different elements.

From our point of view, the integrated database is a data repository organized by a special way which represents the aggregate of local databases in which unified, standard rules of storage, updating, search and information transfer act

by means of which the informative interaction between all participants of the process of enterprises marketing competence management executes.

From our point of view the integrated database must contain the following structural elements:

1. Sources of database formation. As a part of the integrated database this element provides the input of:

- Sample data for internal environment associated with marketing competence management of an enterprise. These are general statistical and demographical data which permit to evaluate market condition, tendencies and perspectives of this development; data of state statistics, economic projections, analytical studies performed by different organizations and specialists, results of public-opinion polls and social studies; mass media (printed matters, television, radio); data sheets, catalogues and booklets printed by enterprises, Internet means etc.

- data for internal state and processes that take place in the course of marketing competence management of an enterprise.

- information received as a result of the marketing interaction with consumers (direct -mail, organization of work of call- centers, direct marketing, web-sites of enterprise etc.). State that media-technologies application in database formation is the essential support of the relations based on dialogue with consumers.

2. Objective-modular database – it is a structural aggregate of interrelated actual data that shows the state of subject area and processes occurring in marketing competence management of an enterprise. It should be noted that not only the data should be in the database but also their description that enables to make an in-depth analysis of the received information and is the base of enterprise knowledgebase formation.

3. Knowledgebase – results of database processing by the specialists in the sphere of marketing competence management of an enterprise which is the base of making reasoned managerial decisions. As to significance of this element it should be emphasized that the current market is characterised by a very great deal of information used in the process of marketing activity therefore its quality is not the competitive advantage anymore.

4. Software – it plays a significant role not only in creation of database but also in support of them in the topical state, centralized management and organization of the access to them by all users. It should be noted that the most widespread software products of present day are of Microsoft Office, namely Visual FoxPro 3.0, Visual Basic 4.0, Visual C++, Access 7.0, SQL Server 6,5.

The differential peculiarity of these packages is a high degree of integration, joint work and use of data. More modern systems can also be used - Oracle, MySQL or PostgreSQL.

Thus there can be distinguished four level of integration of database components of an enterprise:

1) integration at the level of sources of database formation admits to use traditional external and internal information as well as communication channels of interaction with consumers communication channels.

2) integration at the data level stipulates common use of objective-modular database, id est local databases on consumers, contacts (suppliers, business-partners, competitors), products and services rendered as by an enterprise and as well as by competitors.

3) integration at the level of knowledgebase provides not only complete use of a toolkit for carrying out of all-round analysis and conclusions formation for making decisions but also for formation of a certain intellectual capital of an enterprise.

4) integration at the level of the functional providing stipulates use of an aggregate of program modules designed for data processing, their analysis and forecasting, permanent information updating.

Creation and active use of the integrated database in the process of marketing competence management will allow to get the following advantages:

- informative monitoring and receiving of complete and relevant information on a target market of an enterprise and its business-partners;
- possibility of information gathering on consumers and its analysis for the foresight of consumer behavior in the future;
- tracking of the history of interrelations with a consumer (circumstances of realization of purchases, reaction to marketing suggestions, additional goods and services) and formation of the rating of consumer value on this basis;
- determination of the most expedient channels of the marketing interaction with a concrete consumer;
- strengthening of a competitive position in the market and formation of key competences due to having knowledge of competitors behavior.

Integrated database formation for research enterprises requires determination of priority of different information use and an aggregate of certain data depending on a preferential factor of loyalty generation.

Four principal factors of loyalty generation for enterprises acting in the market of sport articles were determined in the course of research: choice rationality, personification, competitive ability of proposition and interactivity of interaction (speed of response to stimulating efforts of an enterprise). Depending on which of the indicators of loyalty overweights at a concrete enterprise it is advisably to establish priority (high, average and low) of use of one or another information in the integrated database formation.

We pointed out the following types of information as one for integrated data bank construction:

1) initial information on consumers (full name, sex, date of birth). State that client databases of the most of enterprises were formed under these features but it's not enough for receiving of complete information on customers. It is also advisably to determine a family status, presence of children, place of employment (education), place of permanent residence, preferential factors of purchase, avocation of concrete sport, place of resort.

2) History of interaction with customers stipulates complex use of information from various interaction channels: service in the points of sale, telephone calls, e-mail, meetings, registration forms at web-sites, advertising sending, social networks. On the grounds of the analysis of the collected information a segmentation of the

customers on the basis of their significant for enterprises, behaviour features, reactions to promotional actions execute. There is appeared possibility to educe the customers who did not make purchases long ago and attempted to return them to an enterprise.

3) Results of the customers segmentation enables to provide a maximal addressness of marketing influence, to increase a number of valid customers due to address propositions and cross-sales (offer of new products and services to already-existing customers) to a concrete target segment. At that we used the following segmentation features: according to demographical feature: age, sex, family size, lifecycle stage of a family; according to geographical feature: territorial distance from an enterprise; according to economical feature: income level, contribution into enterprises profitability; according to social-cultural feature: education, types of activity; according to psychographic feature: life style, personality type, consumption style, personal attributes, price sensibility; according to behavioral feature: status of a consumer, consumption intensity, attitude to the goods, expected hours, loyalty level, choice rules; under situational feature: social environment, time variables, customers of situation.

4) Core customers identification - information on customers or groups of customers who have a large volume of purchases from an enterprise and significant contribution onto enterprise profitability.

5) Data bank on competitors covers all available information on the competitors of an enterprise that enables to analyse their activity, to educe strong and weak points, to determine competitive advantages.

6) Information on competitors' products acquired by the customer.

An example of the integrated database formation is given in a table 1. The results of the carried out research enabled to give the following recommendations. For "Delta-sport" LLC the priority factor of loyalty generation is a "choice rationality" therefore the specialists of the enterprise need to concentrate on top-priority formation of bank data from the collection of initial information on the customer, history of interrelations with the customer, segmentation according to demographical (age, sex, size of family, economical (level of incomes), geographical (territorial distance from an enterprise) and behavioral (status of the customer consumption intensity) as well as to determine core customers and groups of customers. Less priority direction of database formation is segmentation of purchasers according psychographic (lifestyle, price sensibility) and situational (social environment, consumer's situations) features, data bank on competitors and information for competitors' products purchased by the customer.

Its also should be pointed out that this enterprise has the lowest indexes of the employees capability for knowledge management therefor employees should pay attention to increase of abilities to complex thinking during problem solving; analytical, innovative, adaptive abilities and learning capability.

The top feature of loyalty formation of "Adidas- Ukraine" PE is "personification" therefore employees of the enterprise need to concentrate on high priority database formation from collection of initial information on the customer, history of interrelations with customers, segmentation according to demographical

(age, sex, size of family, psychographic (lifestyle, personality style, consumption style, personal attributes) and situational (social environment, time variables, customer's situation) features as well as to determine core customers and groups of customers.

A primary factor of loyalty generation of "Megasport" PJSC is "offer competitiveness" therefore the employees should concentrate on priority formation of database in collection of initial information on the consumer, segmentation according to geographical (territorial distance from an enterprise), economical (level of incomes) and behavioral (status of the customer, consumption intensity, attitude to the goods, profit expectation) features as well as to form data bank of competitors and to determine competitors' products purchased by the customer.

As for "Sportmaster" LLC and "Columbia" PE (a factor of loyalty generation "interactivity of interaction), the integrated database formation should begin with bank data from collection of initial information on the consumer, history of interrelations with the customer, segmentation according to psychographic (lifestyle, personality type, consumption style, personality attributes, price sensibility) and behavioral (status of the customer, consumption intensity, attitude to the goods, expected profits, loyalty degree, choice rules) features and also to determine core customers.

Creation and active use of the integrated database in the process of marketing competence management allows to get the following advantages:

- informative monitoring and receiving of complete and relevant information on a target market of an enterprise and its business-partners;
- possibility of information collecting on the customers and its analysis for foresight of the consumer behaviour in future;
- tracking of the history of interrelations with the customer (circumstances of purchases execution, reaction to marketing offer, additional goods and services) and formation of the rating of consumers' value on this basis;
- determination of the most reasonable channels of marketing interaction with a concrete customer;
- strengthening of a competitive position at the market and formation of key competences due to knowledge of competitors behaviour;

The offered methodology of the integrated database formation will provide unified, clear and complete idea about the customer on the basis of determination of priority ranking of the use of various sources of information and an aggregate of certain data depending on factors of loyalty generation, multifarious data sources on the customer and complex knowledge in the sphere of marketing competence management that will promote active realisation of client-centric approach in marketing activity by an enterprise.

Table 1 – Model of database formation for enterprises of “Large-scale enterprise” format

Enterprise	Factors of loyalty generation		Information from database																															
			Initial information on the client		History of interrelations with a client		Results of customers segmentation																		Core customers identification			Competitors data bank			Information on competitors' products purchased by the consumer			
H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B	H	C	B		
«Delta-sport»LLC	Choice rationality	W																																
		S			●					●			●		●															⊕				
		N						●								⊗				⊕			●		⊕			●					⊕	
«Adidas-Ukrian»PE	Personification	W			●			●					⊕														●							
		S								●				⊕		⊗					⊕								⊕			⊕		
		N																		●					●									
“Megaspot”PJSC	Offer competitiveness	W			●			⊕					●																		●			
		S									⊕						⊗										⊕					●		
		N													⊕					⊕			●		⊕									
“Sportmaster”LLC	Interactivity of interactions	W			●			●			⊕																●		⊕					
		S										⊗				⊕			⊕			●			⊕						⊗			
		N																			●													

Note:

<i>Priority of database element use</i>		
●	B	High priority
⊕	C	Average priority
⊗	H	Low priority

<i>Capability of enterprise employees to knowledge management</i>		
	W	High capability to knowledge management
	S	Average capability to knowledge management
	N	Low capability to knowledge management

Conclusions. In such a manner it may be concluded that under current conditions the necessity of creation of the integrated database directed to satisfying of needs in receiving of complete, relevant and actual information for taking grounded decisions in the process of marketing competence management is of fundamental importance.

Perspectives of the following research studies in this direction is development of information-technological architecture of the integrated database for an enterprise.

References:

1. Информационные технологии в маркетинге: учебник для вузов / Г. А. Титоренко, Г. М. Макарова, Д. М. Дайитбегов и др.; Под ред. Проф. Г.А. Титоренко – М.: ЮНИТИ-ДАНА, 2000. – 335 с.
H.A. Tytorenko, H.M. Makarova, D.M. Daiitbehov and others. (2000), *Informatsionnye tekhnologiyi v marketinge: uchebnik dlia vuzov* [Information technologies in marketing: college textbook], YuNITI-DANA, Moscow, Russia.
2. Избачков Ю.С., Петров В.Н. Информационные системы: учебник для вузов, 2-е изд., СПб.: Питер, 2006. – 656 с.
Izbachkov Yu.S. and Petrov V.N. (2006), *Informatsionnye sistemy: uchebnik dlia vuzov* [Information systems: college textbook], St. Petersburg, Russia.
3. Информационные технологии. И. К. Корнеев, Г. Н. Ксандопуло, В. А. Машурцев Издательство: ТК Велби, Проспект Год: 2007 .- 224 с.
Kornieiev I.K., Ksandopulo H.N. and V.A. Mashurtsev. (2007), “Information technologies”, *TK Velbi*, p. 224.
4. Оксанич А. П., Петренко В.Р., Костенко О. П. Інформаційні системи і технології маркетингу: Навч. посіб. – К.: «Видавничий дім «Професіонал», 2008. – 320 с.
Oksanych A. P., Petrenko V.R. and Kostenko O.P. (2008), *Informatsiini systemy i tekhnologii marketyngu: Navchalny posibnyk* [Information systems and technologies of marketing: Study guide], Vydavnychy dim Profesional, Kyiv, Ukraine.
5. Райордан Р. Основы реляционных баз данных / Пер. с англ. – М.: Издательско-торговый дом «Русская редакция», 2001. – 384 с.
Riordan R. (2001), *Osnovy relatsionnykh baz dannykh* [Designing Relational Database Systems], Translation from English, Moscow, Russia.
6. Твердохліб М.Г. Інформаційне забезпечення менеджменту: Навч. посіб. – К.: КНЕУ, 2002. – 224 с.
Tverdokhlib M.H. (2002), *Informatsiine zabezpechennia menedzhmentu: Navchalnyi posibnyk* [Management information support: Study guide], KNEU, Kyiv, Ukraine.