Issues of innovative approaches implementation to the wholesale trade enterprises

Abstract. The author concentrates on the issues which wholesale enterprises in Ukraine are facing while implementing innovative technologies to their business. She analyses dynamics of the use of warehouse space by the wholesale trade enterprises in Ukraine, introduces classification of innovations to the wholesale trade business, and offers an efficiency equation of innovations implementation by the wholesaler. An approach to risk assessment of innovations in the wholesale trade business is proposed. The introduction of innovative technologies to the twenty leading distributors of selling automotive components in Kyiv and Kyiv region in 2015 was investigated. It has been found that only 11.2% of the companies provide marketing, logistics and technological innovations.

Keywords: Innovation; Classification Criteria of Innovations in Wholesale Trade; Innovative Business Processes; Innovative Technologies; Innovative Risks

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1. Introduction

Wholesale trade is one of the driving forces behind Ukrainian integration into the European Union market, and it is vital to promote innovations to Ukrainian enterprises to make them comply with the standards of the European wholesale trade industry. Innovations may push Ukrainian wholesale trade sector to improve business processes, and to promote modern approaches to goods turnover.

2. Brief Literature Review

There are a relatively large number of publications on the problem of innovations in wholesale trade in Ukraine, showing a variety of methodological approaches. The most notable contributions to the field by Ukrainian scholars are those by V. Apopiy and Yu. Khomyak (2011) [2], O. Beglarashvili (2016) [3], H. Bohoslovs and O. Trubei (2014) [4], M. Vrilt (2009) [5], N. Holoshubova (2015) [7], A. Mazarak (2006) [6], O. Trubey (2014) [8], and Yu. Yurchenko (2012) [9]. However, issues that wholesalers are facing while introducing innovations to their business require further investigation.

3. Purpose

It is crucial to redefine conceptual approaches to the problem of innovations in the wholesale trade sector in Ukraine. To meet this objective, we explore the possibility to evaluate effectiveness and to assess risks of innovations implementation to the wholesale trade enterprises.

4. Results

Despite significant accumulation of empirical knowledge and existing theoretical concepts on innovativeness at the wholesale trade enterprises, there are still quite different approaches towards important methodological issues and problems of innovations implementation. According to the Law of Ukraine «On innovation activity», innovation is defined as «newly created and (or) improved competitive technologies, products or services, as well as organizational and technical solutions for the industrial, administrative, commercial or other use, which significantly improve the structure and quality of production, and (or) social and innovative activities, aimed at using and commercializing the results of research and development, and resulting in new competitive products and services» [1]. V. Apopiy and Yu. Khomyak (2011) determine innovation as «a process aimed at the creation, production, development and qualitative improvement of new products, technologies, organizational forms and their implementation in practical activities, in order to obtain economic benefits and ensure the market success of the enterprise, or organization» [2]. O. Trubey (2014) distinguishes between productive process, organizational and marketing innovations [8]. O. Beglarishvili (2016) concentrates on the importance to implement results of the marketing research of innovative
approaches into practice of the enterprise in wholesale trade sector [3].

We propose our own approach to define the concept of innovation in wholesale trade based on classification criteria of innovations to be implemented to the wholesale trade enterprises. The innovation in wholesale trade is a process aimed at the development and improvement of new types of technologies, able to optimize the logistical, technological, organizational and functional business processes in the wholesale trade with due consideration of specific conditions at the local market.

According to our research of existing classifications of the innovative approaches, we propose to relate classification feature of innovations to the mechanism through which they influence on the business processes involved in the wholesale trade: the main business processes are processes that are dedicated to providing services that are of value to the customer and provide income to the wholesale trade enterprises, namely the purchase - the research of consumer needs; research competitors; the logistics of business processes - market research suppliers of goods; the organization of rational economic ties with suppliers of goods; including contracts for the supply of goods; organization of accounting and implementation of contractual obligations; organization and technology of wholesale purchases of goods from different suppliers; inventory management in the enterprise wholesale; goods delivery; the credit of suppliers; the insurance of products; the marketing research commodity market structure; the research of the properties of the goods; the customer service - after-sales service; the development of bonus systems for enterprise-consumers; the servicing of business processes - processes that are designed to ensure the main of business processes and functioning of infrastructure through ensuring of resources all business processes of wholesale trade, processes that add value product - the improvement of the current process; expanding the client base; expansion of external relations; strategic planning; the processes of management are processes that span the full range of management functions at the level of each business process and business of the whole staff development.

It is also necessary to differentiate innovations by their focus on specific business processes. Development of innovations are encompassing processes that ensure development or improvement of the wholesale trade enterprise's activities. They allow augmenting capabilities of enterprise by improvement of its infrastructure, new business technologies introduction etc. This type of innovations makes deep and universal impact on enterprise, and is aimed to ensure profits in a long run. It includes financial management, logistics management, human resources management, information management, etc.

Re-engineering innovations are defined by the steps to improve the business processes of the wholesale trade enterprise locally, within some selected indicators. Innovation analysis in these cases is focused at identifying priority indicators able to improve the efficiency of business process within existing structure, evaluating the effectiveness of the existing management system of the enterprise.

Another approach to classification of innovation is represented within The State Statistics Service of Ukraine. It defines as separate types of innovations: the acquisition of patent rights, licenses, know-how, technology and other; technological preparation of production; purchase of machinery, equipment and other assets; marketing, advertising and more. However, this approach is somewhat undermined by the fact that it is applied only to industrial sector of economy, and is virtually unable to assess the level of implementation of innovations at the wholesale trade enterprises.

It makes doubtful to get viable statistical data even about warehouse area used in wholesale trade, since the State Statistics Service of Ukraine provides information only on the number of warehouse space directly owned by wholesalers. Contemporary statistical surveys are overlooking wholesalers' usage of warehouses operated but not owned by them. According to our surveys, some of the wholesale trade enterprises are using either smaller warehouse space than they need for effective operations or do not use substantive warehouse space at all.

According to the State Statistics Service of Ukraine, the number of wholesale trade is constantly shrinking. This is due, firstly, to the occupation of some territories in Ukraine, where a significant amount of the wholesale trade enterprises were located and, secondly, because of the exit from the wholesale trade sector of substantial number of companies. According to the State Statistics Service of Ukraine, the highest numbers of the wholesale trade enterprises in Ukraine were in 2010 (78,368 enterprises). Since then, their amount has shrunk dramatically, reaching only 40,471 in 2014 (this numbers do not include information on Crimea and the city of Sevastopol, as well as the temporarily occupied territories of Ukraine) [10].

The figure 1 presents information on the total warehouse area owned by the wholesale trade enterprises for the period from 2011 to 2014. As noted above, the 2014 does not provide information on the occupied territories of Ukraine and Crimea.

According to the data provided in figure 1, the warehouse area in wholesale trade sector is constantly shrinking and in 2014 plunged to an extremely low level.

The highest concentration of warehouse area of the wholesale trade enterprises is accounted for the city of Kyiv and the Kyiv region, Dnipropetrovsk region, Odessa and Poltava regions. In the table 1 the general information about dynamics of the inventory (stock) of wholesale trade in Ukraine for 2011-2015 is presented.

![Fig. 1: The dynamics of the ownership of warehouse area in wholesale trade in Ukraine, 2011-2014, m²](image)

Source: Compiled by the author using data of the State Statistics Service of Ukraine (excluding the occupied territories of Ukraine in 2014) [10]

<table>
<thead>
<tr>
<th>Wholesale inventories</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>by % to total %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the total, million UAH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total in all goods</td>
<td>83944.7</td>
<td>100</td>
<td>109240.6</td>
<td>100</td>
<td>112148.2</td>
</tr>
<tr>
<td>food</td>
<td>20647.8</td>
<td>24.6</td>
<td>21957.8</td>
<td>19.7</td>
<td>25555.2</td>
</tr>
<tr>
<td>non-foods</td>
<td>63296.9</td>
<td>75.4</td>
<td>87732.8</td>
<td>80.3</td>
<td>86693.0</td>
</tr>
</tbody>
</table>

Source: Compiled by the author based on information by the State Statistics Service of Ukraine (excluding occupied territories in 2014 and 2015) [10]
The general structure of inventories of the wholesale trade enterprises accounted for non-food: in 2011 - 75.4%, in 2012 - 80.3%, in 2013 - 77.2%, in 2014 - 81.4%, in 2015 - 85.3%. However, as noted above, it is impossible to assess the level of the average warehouse area per one wholesale trade enterprise, because there is no information on the use or on the terms of the warehouse area outsourcing by the wholesale trade enterprises. Therefore, we suggest conducting in-depth survey of the wholesale trade enterprises by the available warehouse area in use and its quality.

It is impossible to define the level of innovative technologies that the wholesale trade enterprises use without researching their respective business investments. Thus, we propose the set of indicators for calculating investments for innovative development of wholesale trade.

1) The index of efficiency of investments into innovative technologies of the wholesale enterprise that is represented in formula 1:

$$I_{ex} = \frac{\Delta GR_{inovation}}{\sum Invest.innovat.technol.},$$

where $\Delta GR_{inovation}$ - the changes in gross revenue of the wholesale enterprise income due to the introduction of innovative technologies; $\sum Invest.innovat.technol.$ is total of investments into the innovative technologies.

2) The index of efficiency of the investments in innovative technologies for wholesale trade turnover is represented in formula 2:

$$I_{T} = \frac{\Delta T}{\sum Invest.innovat.technol.},$$

where $\Delta T$ is the changes of wholesale turnover of the wholesale trade enterprises as a result of the introduction of innovative technologies;

3) The index of efficiency of the investments into innovative technologies by the profits of the wholesale trade enterprises is represented in formula 3:

$$I_{p} = \frac{\Delta P}{\sum Invest.innovat.technol.},$$

where $\Delta P$ is the change of profit by the wholesale trade enterprises as a result of the introduction of innovative technologies;

4) Payback period of investment in innovative technologies at the wholesale trade enterprises in formula 4:

$$t_{paybac} = \frac{1}{I_{p}}$$

Also, at the wholesale trade enterprises it is necessary to assess the risks produced by the introduction of innovative technologies. We propose to evaluate these risks while implementing innovative at the wholesale trade enterprises as follows: financial; logistics; technology; information; marketing; organizational and management.

Considering the uncertainty in the planning, the phase of innovation at the wholesale trade enterprises can be achieved by introducing some redundancy in reliability (reserves) and flexibility (adaptability) based on the re-engineering of the business processes. We propose to evaluate the risk of innovation as the probability of loss or damage level. This approach is represented in the table 2.

The level of risk of innovation for the wholesale trade enterprises is calculated by the formula:

$$\alpha_{eff.innov.} = \frac{\sum v\% \Delta \varepsilon}{k},$$

where $\alpha_{eff.innov.}$ is the level of risk reducing the efficiency of innovation at the wholesale trade enterprises, in points $v\% \Delta \varepsilon$ is numerical score of the relative deviation of performance indicators of the introduction of innovative technologies in comparison to those planned.

To quantify the level of risk reduction efficiency of the introduction of innovation at the wholesale trade enterprises, it is necessary to calculate the probability of risk events in innovative business processes according to formula 6:

$$p_{i} = \frac{\sum v\% \Delta \varepsilon}{h},$$

where $p_{i}$ is the probability of risk event for the particular innovation of business process; $h$ is the total number of key innovative business processes.

We investigated the introduction of innovative technologies to the twenty leading distributors selling automotive components in Kyiv and Kyiv region. Our research found that this companies provide marketing, logistics and technological innovations (see table 3).

Thus, according to our survey, distributors of automotive components in Kyiv and Kyiv region used the innovation mostly as combined, but with strong impetus on logistics business processes. Heads of these enterprises understand the improving of the logistics process in the warehouse as using modern storage facilities; technological innovations are seen by them mainly within framework of information technology improvements affecting management of business process at the enterprise. The biggest firms in the market which introduce innovations are «AD Ukraine» and «Elit Ukraine».
A «AD Ukraine» group of companies is a part of the bigger European trade group Auto Distribution International (ADI) and is active at the Ukrainian market since 2007. It controls about 20% of the automotive components market. It has 337 employees, 6000 sq. m of warehouse area, where they can store more than 80,000 SKU. The company offers 137 brands in assortment. Well-organised work of the logistics department enables the company to make overnight deliveries to customers in any city of Ukraine (order by 17:00, get your order by 9:00 the next day). Delivery of spare parts in Kyiv is carried out on a «100 minutes» basis [11].

«Elit Ukraine» company is a big importer and one of the market leaders in auto components and commercial vehicles markets. The company is a part of the Czech ELIT Group, which, in turn, is a part of the Italian «Rhiag Group» corporation. Today, the network consists of 19 branches located in all major cities: Kyiv (three branches), Dnipropetrovsk, Zaporizhzhya, Kharkiv, Odessa, Lviv, Uzhgorod, Ternopil, Zhytomyr, Kryvyi Rih, Rivne, Vinnytsya, Bila Tserkva, Poltava and Khmelnytskyi. In Ukraine, the central warehouse of 7000 sq. m. is located in Kyiv. The final link in the logistics chain is a branch office which provides a complete range of the most popular auto parts with regard to regional peculiarities. Operational logistics service allows service centres to receive parts from its affiliates in 1.5-2 hours, and from the central branch - by the next day. The company offers its customers excellent opportunities for business development; e-catalogue e-CAT 3.0 which in many ways is a unique one. It simplifies search for specific parts and can send orders online. Company also provides parts under its budget brand «Starline». Its wide range of parts, availability, quality and affordable price allows auto service centres to improve their work using «Partner Elit Autoservice» program, through which Elit customers acquire new clients and provide better services by using technical database VIVID e-TECH which includes most of the technical data on 98% of contemporary Ukrainian car fleet [12].

The enterprises need to implement innovations by using modelled strategies: introduction of innovative technologies and organization of the process that lead to optimization of logistics costs; increase in the added value flexibility of the logistics system; rapid adaptation to changes of the external conditions.

Table 4 presents data of the development of the wholesale trade enterprises which use various types of innovations.

Empirical results of survey of innovation production and adoption in EU countries held in January 2013 by the group of researchers Rosina Moreno, Corinne Autant-Bernard, Sylvie Chalaye, Fabio Manca, and Jordi Surinah (2013) demonstrated that innovation adoption is far from being homogeneous across sectors of economy. «Sectors for which the adoption rates are the most important are electricity, gas and water supply (62%), then wholesale trade (51%), and transport and communication (48%)» [14].

Thus, we propose our approach to define the notion of «innovation potential for wholesale trade», which is an ability to introduce innovations at the stages of procurement, storage, distribution of goods, as well as the stage of customer service, through the knowledge generation and the use of innovative business processes, in order to increase the potential for intensive development of the wholesale trade.

We recommend the following steps to promote the innovative component to wholesale trade by public and private actors of the market: to create common information space for Research & Development in wholesale trade sector; stimulate wholesale trade enterprises to implement innovative technologies; implement innovative technologies to observe and maintain optimal proportions of own and outsourse warehouse space by wholesalers to minimize their expenditures; promote high level of automation of warehouse business processes; develop and implement further innovations in logistics for wholesale trade; involve the national capital to participate in investment projects with high portion of innovations for wholesale trade; control effectively the quality of goods, to ban counterfeit and substandard goods from entering market; monitoring performance and quality of services provided by wholesalers.

5. Conclusions

The main objective for innovations in wholesale trade should be attention to the type of trade structure, processes, lifecycle innovation, efficient use of financial and human resources that could in some way limit the opportunities for implementing various innovations. It is well-known that the main feature of the policy of innovative development of wholesale trade is related to the possibility of introducing logistics, marketing, information and technological innovations in the customer service. The viability of innovative strategy for wholesale trade depends from the situation at the market and own capabilities (especially, for investments) of the enterprise.

Thus, we defined innovation in wholesale trade as a process aimed at the development and improvement of up-to-date technologies that optimize the logistics, technical, organizational and functional business processes at wholesalers under specific conditions at the market.

Based on our research, we provided the following classification of innovations in wholesale trade with regard to the mechanism of influence on business processes: basic (primary, reproductive) business processes, servicing (supporting) business processes, the degree of development of innovative business processes, business process development, business process reengineering, etc. We came to the conclusion that it is not possible to attain proper level of innovation in wholesale trade without research investment. Thus, the calculation of efficiency requires analysis of investments to implement innovative technologies, effects of innovations on gross income of the enterprise, shifts in turnover as a result of innovative technologies, period of investment payback under the introduction of innovative technologies at the enterprise.

We prove the necessity to calculate risks while implementing the innovative technologies at the wholesale trade enterprises, namely: financial; logistics; technology; information; marketing; organizational and managerial investment. In addition, to quantify the level of innovation efficiency risk reduction, it has been offered to calculate the probability of risk events in innovative business processes.
References


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