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TRAINING OF FUTURE LOGISTICS AND SUPPLY CHAIN MANAGERS: A COMPETENCY APPROACH

ABSTRACT

The paper highlights the results of scientific research on the issues of training highly qualified logistics and supply chain managers, justification of directions, and development of practical mechanisms for its improvement.

The paper is based on scientific literature analysis, comparative analysis, and case study research.

It is established that modern global trends and changes in society and the economy lead to the emergence of more extended requirements for the training of highly qualified managers able to effectively perform specific types of work in accordance with the needs of society and the labour market in the field of logistics and supply chain. In this context, the issues of applying a competency approach when training future logistics and supply chain managers and the formation of a competency model that meets the modern requirements of the labour market are considered. A review of scientific literature has been carried out regarding the main theoretical foundations of forming competences and competencies in the process of professional training of logistics and supply chain managers. Attention is focused on the need to form basic core competencies, including models of basic professional competences and competencies that are key ones in the professional activity of specialists. The main models of competencies of the company's specialists, which make it possible to ensure effective management of modern companies, are highlighted. The experience of training future logistics and supply chain managers in Ukraine is studied. The expediency of applying a competency approach when training future logistics and supply chain managers in Ukraine is substantiated. A conceptual model of a multi-level national system of professional training of logistics and supply chain specialists is proposed. A T-shaped model of the competencies of modern logistics and supply chain managers is developed.

Keywords: training of managers, logistics, supply chain management, competency, competency model

JEL Classification: M2, I2

INTRODUCTION

Due to the current transformations in society and economy, Ukraine is objectively forced to increase the number of logistics and supply chain managers and improve the system of their training. Effectiveness of professional activities of modern logistics and supply chain managers depends on the gained knowledge, skills, personal qualities and abilities, flexibility and critical thinking, communicative skill and foreign language proficiency, ability to elaborate efficient strategies for solving management problems. These specialists must be competent to carry out a systematic analysis of changing conditions of the socio-economic environment, make and implement standard and original management decisions. The career success of a modern graduate in the field of logistics and supply chain management is determined by the ability to adequately respond to dynamic changes in business conditions, competencies to quickly restructure the job content in accordance with changing market requirements.

The relevance of studying these issues is confirmed by the ongoing process of substantiating the content of professional competences and competencies of logistics and supply chain managers through the attempts to formulate training standards for different educational degrees.

The study of logistics and supply chain managers in Ukraine has become much more relevant as a result of the spread of the COVID-19 pandemic and even more urgent in emergency conditions, in particular, military invasion. Usual logistics channels and traditional supply chains have been destroyed at the national, regional, and global levels. Hence, approaches to logistics and supply chain management that have emerged in peacetime have to be reconsidered. In such conditions, future logistics and supply chain managers need to gain new knowledge, acquire new skills, form new competences and competencies, which require improvement of the system of their professional training.

LITERATURE REVIEW

The issues of the competency approach application in the process of training specialists have been studied by a large number of scientists, both foreign and Ukrainian.

Essential characteristics of the basic theoretical concepts approach to the formation of competencies, and competencies in the process of professional training have been clarified by D. C. McClelland [1], L. L. Antoniuk et al. [2], M. M. Volikova [3], I. Snovydyvych [4] and other researchers. The scholars define competencies as characteristics of human factors and integrated behavioural models that form competency. For this purpose, they suggest to actively use a competency approach in the learning process, consider the requirements and needs of employers who need graduates with the formed competencies. These competencies are indicators that determine the readiness of graduates for their further professional activities and development.

Competency implies the availability of knowledge and a set of different kinds of skills, which determine the success or failure of graduates in the labour market. This set of skills should contain two types of them, in particular "...the capacity for carrying out complex, well-organised patterns of behaviour smoothly and adaptively so as to achieve some end goal..." [5]. These types of skills are called "hard skills" and "soft skills". According to [6], the acquisition of hard skills embodied in the acquired qualifications of a modern specialist is a generally accepted and research-supported fact. However, in modern models of competences and competencies of specialists, much more preference is given to soft skills (e.g. overcoming barriers in communications, building relationships with customers, work planning, cooperation with others, etc.) [7].

Each field of professional activity requires the formation of a certain ratio of hard and soft skills that are specific to this particular field [8]. Defining such relationships between different types of skills in the competency models of specialists in different professional fields, in particular, management, is of great scientific interest.

T. Balanovska and B. Wyrzykowska consider it necessary to apply a competency approach when training managers. They argue that the factors of a manager's compliance with the requirements of the modern labour market include acquired practical knowledge combined with personal qualities and abilities [9]. A. O. Kasych substantiates a competency model of future managers, which offers a set of integrated key professional and social competencies of managers at different degrees of higher education [10]. This approach is becoming traditional in the field of training managers and involves the formation of a competency model of managers, which is almost standard for different educational programs. Nevertheless, it needs to be improved.

Until recently, management graduates were expected to acquire a set of soft skills combined with knowledge and hard skills in one of the professional courses. According to S. Conley et al., current challenges faced by society require new competency models that would form knowledge and skills in different courses and let specialists solve problems, e.g. in-depth knowledge in one course and broad knowledge in related or general areas, i.e. models of so-called "T-shaped" managers [11].

D. Guest was the first to mention the need for T-shaped managers and defined them as professionals who can effectively integrate business experience with information technology skills, and are capable of considering both technical and social components within the larger system (the down-bar of the letter "T", i.e. vertical and horizontal lines of the letter "T") [12]. Hansen and von Oetinger clarified that "T-shaped" managers should be able to be effective both at the horizontal level of the organization (the horizontal line of the letter "T") and in their individual activities (the vertical line of the letter "T") [13]. T. Brown added that such managers should have verticality in the depth of skills in order to assist in innovations and horizontality in the disposition towards multidisciplinary [14].

M. Christopher considers that logistics and supply chain management needs "T-shaped" managers who have a specific professionalism with in-depth knowledge and capability, they also have a significant understanding of the other key business functions [15]. J. Managan and C. Lalwani support this point of view and emphasize the importance of combining three components in the competency model of logistics and supply chain managers, namely general knowledge, Logistics/SCM-specific knowledge, relevant hard and soft skills [16].

Necessary knowledge and skills can be acquired, and competitive competency models for training future logistics and supply chain managers can be formed only through appropriate educational programs. Success in developing these models is based on the competency approach that focuses on what learners do or know how to do as a result of learning, rather than why they should learn.

These are the great challenges for today's system of training logistics and supply chain managers in Ukraine that are to be overcome.

AIMS AND OBJECTIVES

The aim of the research is to investigate the world experience and approaches to the application of the competency model for training future logistics and supply chain managers.

The objectives of the study are as follows:

- to generalize the theoretical basis for the application of the competency approach to training future logistics and supply chain managers;
- to study the system of training and formation of competencies of future logistics and supply chain managers in Ukraine;
- to propose an up-to-date competency model for logistics and supply chain managers.

METHODS

The paper relies on scientific literature analysis and case study research. The study encompasses theoretical literature analysis as well as case study and comparative analysis.

The research was conducted by studying the experience of training future logistics and supply chain managers at the institutions of higher and vocational education in Ukraine. Special attention is paid to the experience of educational institutions of the network of the State University of Trade and Economics, Ukraine. The peculiarities of training students and formation of their competencies in the educational programs related to logistics and supply chain management in specialties "Management", "Entrepreneurship, Trade and Exchange Activities" and "Transport Technologies" were studied at the educational institutions.

A comparative analysis was used to assess the possibility and find ways to implement the European experience of training future logistics and supply chain managers in Ukraine.

Methodological principles, methodical approaches and research results were discussed and positively assessed by stakeholders of these educational programs and leading employers in the field of logistics and supply chain management in Ukraine.

RESULTS

A modern educational paradigm is based on the application of the basic approaches including axiological, activity-based, competency-based, person-oriented, culturological, systemic, etc. These approaches are used comprehensively when training future professionals using a variety of modern techniques, methods and forms of organizing the educational process.

A competency approach is one of the main directions of education modernization both in the world and Ukraine. Its application requires profound systemic changes in the teaching of academic courses, in particular, their content, assessment, implementation of advanced educational technologies, its interrelationship with other courses, as well as the interaction of higher education with other levels of vocational training. When applying a competency approach, the learning outcomes are primarily not to increase the learner's awareness, but to form the ability to solve problems that arise in various practical situations.

According to L. L. Antoniuk et al., a competency approach contributes to the formation of higher education students' skills for realization in professional activities, while the criteria and parameters for assessing learning outcomes are unified and expressed in terms and results that can be interpreted and considered in any educational institution of any country [2].

I. Snovydych [4] and A. O. Kasych [10] argue that education that is grounded on the application of a competency approach is aimed at the formation of students' life skills and practical application of knowledge. In the learning process, they focus on what they have to do in the future (will be able to do), not on what they have to learn. The application of a competency approach helps the learner to acquire knowledge during the learning process, as well as focuses on the formation of personal, social, cultural and professional competencies that will meet the needs of modern society and will be necessary for future professional activities.

The term "competency" was first used by the American psychologist D. C. McClelland in 1973 when characterizing human factors, which competency depends on [1]. Today, the term "competency" is interpreted as an integrated behavioural model that encompasses the knowledge, skills, attitudes, personality traits and motivation of a person necessary for the best performance of certain tasks, functions, and responsibilities. M. M. Volikova defines the term "competence" through such categories as "knowledge", "skills", "abilities", "experience gained" and "capabilities" that are acquired and developed through learning [3]. It is important to note that not all competencies (including "soft skills") can be formed as a result of studying at educational institutions.

W. Hutmacher identified five groups of key competencies that a modern specialist should possess. These are the following groups [17]:

- political and social ones;
- multiculturalism, i.e. the ability to communicate with different cultures and religions;
- sociability;
- digital ones, i.e. associated with the emergence of the information society;
- those aimed at personal and professional self-development throughout life.

As expressed by experts of the World Economic Forum, top-ten skills of a modern qualified specialist in 2022 are as follows [18]:

1. Analytical thinking and innovation
2. Active learning and learning strategies
3. Creativity, originality and initiative
4. Technology design and programming
5. Critical thinking and analysis
6. Complex problem-solving
7. Leadership and social influence
8. Emotional intelligence
9. Reasoning, problem-solving and ideation
10. Systems analysis and evaluation

The result of a specialist's acquisition of competencies is competency, which characterizes a person's ability to act in a variety of standard and non-standard situations. T. I. Balanovska et al. distinguish the following types of competencies: functional, intellectual, situational, temporal, and social [19].

A typical set of competences and competencies of a specialist includes knowledge and abilities that are both professionally and socially oriented. To form a necessary model of competences and competencies of the specialist, it is important to acquire "hard skills" and "soft skills", i.e. skills related to the formal (technical) aspect of professional activity, as well as universal social skills with effective communication and interaction.

The hard skills of specialists include professional and technical skills that are based on the relevant knowledge, including professional knowledge, skills of information technology implementation, foreign language proficiency, etc. Hard skills are universal in terms of their application and do not depend on the environment in which the specialist works. Hard skills formation can be documented (diplomas, certificates), as well as easily verified by the employer, for example, through passing a job-related test.

Collins English Dictionary defines the term "soft skills" as qualities that are desirable for certain forms of employment and that do not depend on the knowledge acquired by a specialist like common sense, the ability to treat people, and a positive attitude towards others [20]. The soft skills of a specialist are universal social, intellectual, and volitional competencies. They include, in particular, sociability, the ability to work in a team, creativity, punctuality, even temper, analytical and critical thinking, leadership skills, timing, attentiveness, etc. Soft skills are rather specific in their nature, so the conclusion about their formation in a specialist can be made through the evaluation of certain characteristics, at the same time it is almost impossible to measure the volume and provide a quantitative differentiated assessment.

According to S. Korol and A. Klochko, 85% of a person's professional success depends on soft skills and 15% on hard skills [8]. The vast majority of employers appreciate labour having soft skills in critical thinking, problem-solving, leadership, negotiating, and communication. Therefore, when training future specialists in logistics and supply chain management at educational institutions, it is extremely important to focus on the formation of soft skills (along with hard skills), which will form a required competitive competency model.

Successful learning outcomes and success in the professional activities of future graduates of higher educational institutions depend on the hard and soft skills formed in the learning process in combination with hard work [21]. We share the idea expressed by the scientists on the importance of integrated formation of hard and soft skills in future logistics and supply chain managers, but it should be noted that there is some inaccuracy in these digital relationships between the sets of hard and soft skills, since the methodology of such measurement is the subject of scientific debate.

Modern education systems should pay more attention to the development of soft skills, but this attention should be differentiated according to the needs of employers due to significant differences in the value of soft skills in different sectors of the economy. As noted by F. Quinn, to achieve any measure of supply chain success three critical elements (people, process and technology) need to be kept in balance [22]. And the first crucial element is people, so soft skills are very important in logistics and supply chain management.

In a post-industrial society, universal and multidisciplinary knowledge and technologies that determine the choice of promising areas of the education system development and modernization are dominating. In this context, the so-called letter models of competencies (T-, I-, L-, M-, X-, n-, Combo-shaped models of specialists and other models) are widely discussed by scholars, employers and human resource managers.

The concept of a T-shaped model of specialists' competencies was proposed by D. Guest. He defined T-shaped professionals as people who combine deep expertise in their field with broad knowledge in related fields [12]. Modern literal models of competences and competencies are based on the theory of Learning Organizations and the concept of T-shaped Management [13]. The concept involves the formation of the competency model for training a completely new type of specialists, which destroys the traditional corporate hierarchy in order to freely use one's knowledge with other managers both at the horizontal level of the organization (horizontal part of writing the letter "T") and in individual activities (vertical part of the letter "T"). Today, professional profiles of specialists are considered to be T-shaped, usually having a set of deep hard and a wide range of soft skills.

Recognized American specialists in the field of training logistics and supply chain managers M. Christopher, J. Mangan and C. Lalwani substantiated the need to form a T-shaped competency model of modern specialists in this field. They identified the following set of required competencies of logistics and supply chain managers [15; 16]:

- understanding the needs of the market and consumers;
- the ability to manage in complex and dynamically changing conditions;
- the expert ability to use information systems and apply information technologies;
- the ability to identify, measure and manage the service of certain market segments;
- understanding the "cost of service" and time indicators of its effectiveness;
- functional perfection combined with interfunctional understanding;
- the ability to work in a team;
- the ability to manage relationships, establish mutually beneficial and promising cooperation.

This T-shaped model clearly defines the need to combine deep hard and soft competencies in logistics and supply chain managers.

In particular, we would like to emphasize the first two competencies mentioned above, namely: a) understanding the needs of the market and consumers; b) the ability to manage in complex and dynamically changing conditions. These competencies can be formed through the marketing orientation of managers' thinking. I. Polishchuk et al. believe that in

order to ensure successful adaptation to changes in the environment, which are becoming less predictable, it is necessary to develop marketing management systems designed to respond quickly to such changes [23].

According to O. Gonchar et al., in the modern world, stable competitive advantages are achieved through the marketing orientation of business and consideration of the interests of participants of the supply chain and stakeholders [24]. Along with the interests of private businesses in the supply chains, there are interests of individual consumers, the state, and society, which should not get into unresolvable conflict with each other and provoke opposition.

Forming a necessary and complete set of competencies of future professionals during their studies at the educational institution is a difficult task, as it requires some experience and long-life education in various fields, not only in their narrow professional field. Therefore, the task of training managers is to form basic core competencies, i.e. a model of basic professional and social competencies, which is critical for management. If the basic model is formed, then in the future the manager will be able to obtain additional knowledge and skills independently and update them in the process of practical activities and through self-education.

The quality and efficiency of management in modern companies are largely based on the use of the models of staff competencies that link the goals of the company with those necessary to form the competencies of their professionals. The term "competency model" can be defined as a set of knowledge, skills, abilities and personal qualities, the relationship between a set of certain behavioural traits of a specialist and certain indicators of one's activities. The model of competencies of specialists can also be defined as a set of reasonable criteria for selection, adaptation, motivation and development, and evaluation of the results of staff work. The competency model includes a set of competencies that determines successful work in specific working conditions and situations. Competency models contain a necessary and sufficient set of competencies, which allows professionals to successfully perform relevant job functions and achieve the desired results. These widely known models include the model of SHL company, the model developed by S. Whiddett & S. Hooley, the model suggested by the Society for Human Resource Management, the "Corporate Financial Technologies" model and others.

According to the results of research "The Future of Jobs Report" presented at the World Economic Forum, supply chain and logistics specialists belong to the type of specialists who play a stable role and there will remain a demand for them in the world labour market in the near future [18]. The same trend can be observed in Ukraine. According to expert estimates, the total need for highly-qualified logistics and supply chain managers in the labour market of Ukraine is 500-800 thousand people, and the potential capacity of the labour market in this segment can be about 2 million people.

The logistics market in Ukraine has started to form quite recently, and the first professional logistics providers in supply chains appeared only in the late 1990s and early 2000s. The logistics of the Ukrainian economy have been rather slow since then.

In today's conditions of increased competition, intensification of globalization and European integration processes, current organizational and economic problems that prevent the formation of effective supply chains require a quick solution. On the one hand, Ukraine deals with problems concerning the infrastructure and business operation (e.g. a shortage of high-class terminal, transport-logistics and warehouse complexes; a low supply of complex transport-logistics services to ensure international, interregional transportation; the difficulty of integrating one's own logistics with the services of providers). On the other hand, a significant obstacle that slows down the development of Ukraine's economy is the insufficient number of qualified personnel in the field of logistics and supply chain management. Solving these problems will allow us to increase the competitiveness of Ukrainian goods in the European and world markets.

A comprehensive assessment of Ukraine's performance in the field of logistics and supply chain management is not satisfactory. Results of the evaluation of the international Logistics Performance Index (LPI) provided by the World Bank show that Ukraine is significantly behind Germany, which is a leader in this ranking list, and its neighbour Poland (Figure 1).

It should be noted that Germany has been one of the leaders in the LPI ranking list for the last decade, and since 2014 it has been at the top. Positions of Poland, Ukraine's neighbour in Europe, look attractive in this list compared to the position of Ukraine, though in the 1990s, at the beginning of the logistics market development, our countries had approximately the same starting positions. In addition, Poland is the main logistics competitor of Ukraine in Europe.

Evaluating the dynamics of Ukraine's LPI, there can be observed positive trend, thus in 2007 it ranked 73rd, and in 2018 it ranked 66th with an overall LPI score of 2.83 points. Compared to the leader of the rating list, Germany (overall LPI score is 4.20 points) and Poland (overall LPI score is 3.54 points), the index of Ukraine was 1.48 and 1.25 times lower, respectively.

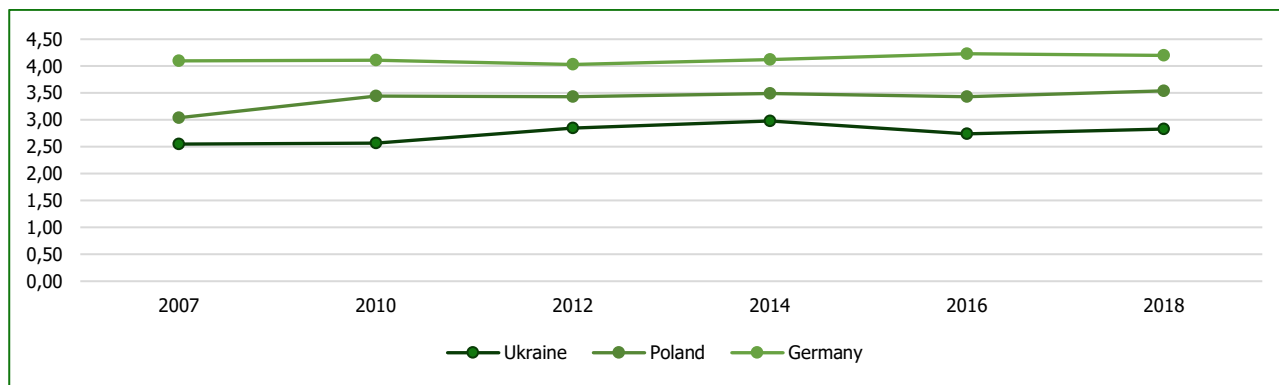


Figure 1. Overall LPI scores of Ukraine, Poland and Germany in 2007-2018, scores. (Source: formed by the authors according to [25])

LPI rating methodology is based on a survey of global logistics operators who evaluate the efficiency of the logistics system of the countries they operate in.

The index of timeliness of cargo deliveries (3.42 points) was the highest among the best values of Ukraine's LPI indicators, and the index of infrastructure quality (2.22 points) was the lowest.

LPI rating is both a tool for interactive reference testing and an indicator that can help countries identify problems and opportunities in the field of logistics, and determine the directions of measures, the implementation of which is necessary to improve the efficiency of its components.

Qualification of personnel in the country is one of the key evaluation objects within the indicator "Quality and Competence of Logistics". Each of the six LPI indicators has its own significance (value factor), which is assigned to each indicator during the construction of the integrated LPI, the value of each indicator is practically the same and does not change significantly in different editions of the LPI over the years. However, the importance of the indicator "Quality and Competence of Logistics" is determined by the experts as the highest among all other indicators (0.4166 in 2018).

Based on the name and essence of this indicator, the experts of the World Bank assess both the quality of logistics services (compliance of the provided services with the expected or established standards) in the country, as well as the competence in their provision.

According to the level of quality and competence of logistics in the LPI rating, in 2018, Ukraine ranked 61st with an indicator of 2.84 points (Figure 2).

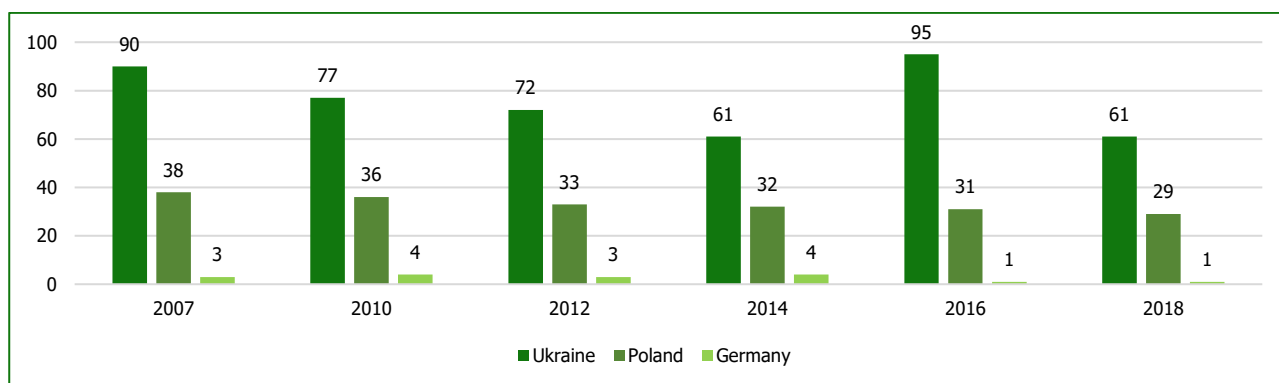


Figure 2. Overall LPI ranks of the indicator "Logistics Quality and Competence" in Ukraine, Poland and Germany in 2007-2018, ranking position. (Source: formed by the authors according to [25])

The indicator of quality and competence of logistics in Ukraine compared to similar indicators of Germany and Poland in 2018 was lower by 1.52 and 1.26 times, respectively, which is almost identical to the ratio of integral indicators of LPI.

The competency of the country's logistics is determined by the competency of all its individual and institutional elements. Thus, it is a totality of competencies, i.e. knowledge, abilities, skills, capabilities and experience, and it is formed by the ability and readiness of a person or an institution to perform management activities.

Supply Chain Management and Logistics are functional areas of activity. Competency in these areas can be defined as the collective knowledge, experience and abilities of personnel. Thus, it is embodied in the competencies of personnel and is a certain set of professional and personal characteristics of logistics and supply chain specialists. It should be noted that competency usually relates to the actions of specialists in standard situations. Competences, in their turn, contain the elements of staff readiness to solve non-standard situations due to the individual characteristics of a person, through the transition from the quality of knowledge to the quality of activity, as well as through the ability to make effective decisions in conditions of uncertainty and increased risks of the market environment.

Future logistics and supply chain managers in Ukraine have the opportunity to acquire professional competencies within the framework of professional educational training, which is presented in the following basic forms:

- academic educational programs of higher education institutions for training junior bachelors, bachelors and masters in specialities "Management", "Entrepreneurship, Trade and Exchange Activity", "Transport technologies" with official diplomas in logistics specializations;
- specialized logistics courses institutions of higher education institutions, public organizations, associations, professional associations (courses of the International Federation of Forwarding Associations (in French "Federation Internationale des Associations de Transitaires et Assimiles" – FIATA), International Air Transport Association (IATA), etc.);
- corporate training in domestic and international companies;
- various business pieces of training, business seminars and business courses;
- self-education, etc.

International experience of training specialists in logistics and supply chain management shows the lack of uniform approaches and standards to their competencies and competencies. The list of professional competencies of specialists varies depending on the educational standards of training in certain countries and on the specific educational and professional program (there are about 200 of them in the world). In the modern education system of Ukraine, the situation with the national standards of professional competencies of specialists in logistics and chain management remains unresolved. Due to the need to eliminate this shortcoming, as well as the European integration of Ukraine determined by society and the state, it is expedient, in our opinion, to harmonize the national educational standards being created with the unified standards of competencies adopted in European countries, which determine the generalized requirements for workers in the field of logistics and chain management supplies (Table 1).

Table 1. Levels of competencies of logistics and supply chain managers according to European standards. (Source: formed by the authors according to [26])

Level of competency	Logistics and supply chain managers
Strategic Level	<ul style="list-style-type: none"> ▪ senior managers, senior consultants, directors with extensive experience in logistics or supply chain management (strategic managers); ▪ senior executives from other areas of business who have taken on the duties of a strategic-level logistician;
Senior Level	<ul style="list-style-type: none"> ▪ managers and consultants involved in the planning and coordination of various components of the logistics system; ▪ coordinators of the logistics process in the functional areas of the enterprise and components of the network structure of supply chains; ▪ inspectors, controllers, auditors, analysts, senior managers of the enterprise logistics
Supervisory Operational Level	<ul style="list-style-type: none"> ▪ specialists of operational/functional level of management of logistics processes and types of activity, including supply chains, service, orders, stocks, warehousing, transportation, logistics support of production operations, information support of logistics, etc.

It should also be noted that the lack of national quality standards for professional education in the field of logistics and supply chain management, an inadequate system of training and retraining of specialists lead to non-recognition by the other states of diplomas awarded by domestic educational institutions. As a result, Ukrainian logistics and supply chain managers searching for a job in the international labour market face some additional barriers.

In Ukraine, in order to provide appropriate conditions for the successful training of logistics and supply chain managers who would be competitive in the labour market, it is necessary to reorient the processes of planning, organizing and providing professional training, as well as to modernize the approaches to assessing learning outcomes and employment opportunities in the labour market. In modern conditions scientists, practitioners and educational managers face the urgent task of developing the conceptual model of a multilevel national system of training logistics and supply chain managers.

This model should be harmonized with the European and national qualifications framework and may contain the following levels of training: operational, functional corporate and educational-scientific (Figure 3).

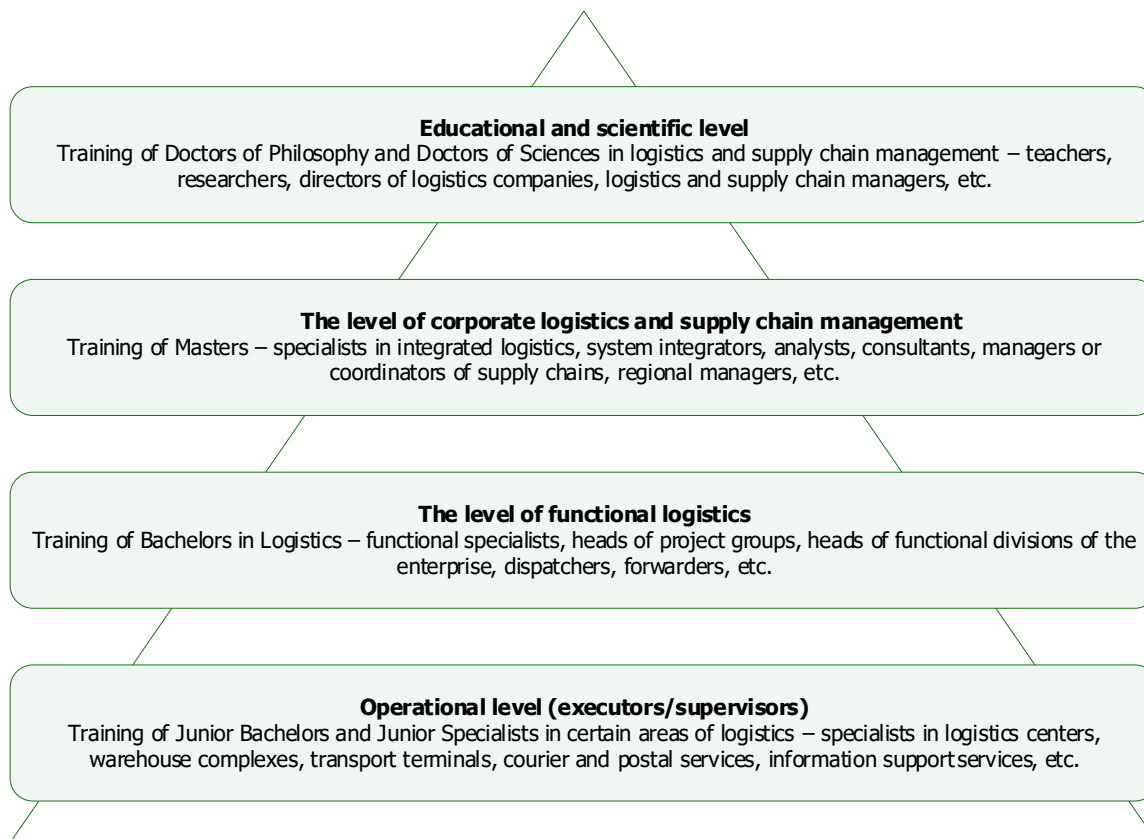


Figure 3. A model of a multi-level national system of training specialists in logistics and supply chain management. (Source: formed by the authors)

Development and implementation of a conceptual model of a multilevel national system for training logistics and supply chain managers can be ensured through the application of a competency approach, scientific substantiation of practical needs and the current modern business environment. An obligatory element of this concept should be the separation of necessary criteria for the formation of a model of professional competencies of a modern specialist who must master sufficient professional tools in the domain (basic professional competencies), special professional competencies in information systems and technologies, and relevant communicative skills.

The expediency of applying a competency approach to teaching future logistics and supply chain managers in the network of educational institutions of the State University of Trade and Economics, Ukraine has been confirmed by the activities shown in such areas as:

- application of structural and logical schemes in the process of organizing the educational process;
- application of a system of balanced indicators to stimulate personal development;
- introduction of independent choice of academic courses by the students;
- extensive introduction of innovative teaching methods, in particular, the case method and the project method;
- application of up-to-date information and communication technologies to support the educational process;
- intensification of independent research work of students, etc.

One of the challenges for today's system of training logistics and supply chain managers is the development and implementation of educational programs that have the necessary breadth and depth to create relevant competency models.

Development and improvement of the education system in Ukraine are aimed at ensuring high-quality education and upbringing, and better theoretical and practical training of highly qualified specialists in various fields of economy, science, and culture. In Ukraine, the traditional system of professional training of logistics and supply chain managers is focused on the formation of certain knowledge, skills and abilities in a particular field. At the same time, graduates in the modern

labour market are expected to have a complex of both professional and personal abilities, including systematic, critical and problem-oriented thinking; high information and legal culture; increased responsibility; efficiency; ability to take the initiative; creativity, etc.

As part of this research, in order to establish current requirements for the competences and competencies of logistics and supply chain managers in the Ukrainian labour market, there have been conducted the following activities:

- monitoring of available vacancies on the top job-searching sites in Ukraine (<https://work.ua>, <https://hh.ua>, <https://jobs.dou.ua>, <https://rabota.ua>, <https://work.ua>, <https://olx.ua>, <https://trud.ua>, <https://ua.jooble.org>);
- a survey of employers in the field of logistics and supply chain management in the Podillia region (central part of Ukraine);
- a survey of stakeholders of the educational programs "Logistics", "Management", "Entrepreneurship, Trade and Exchange Activity" and "Marketing" of educational institutions of the State University of Trade and Economics.

The results obtained make it possible to clarify general requirements for the competence and competencies of logistics and supply chain managers in 5 main areas:

1. Higher education in logistics. It is one of the key requirements for candidates. However, employers are usually satisfied with candidates having a higher education in related fields like marketing, management, transportation, economics, etc. This kind of education allows employers to expect that candidates have formed necessary general and special economic professional competencies, which within a relatively short time (3-6 months of practical activities) can be transformed into special professional competencies in the field of logistics and supply chain management. It is clear that simply studying or receiving a diploma at a higher education institution in the educational programs "Logistics" or "Supply Chain Management" does not guarantee the competitiveness of graduates in the labour market in the field of logistics and supply chain management. Graduates must have a set of competences and competencies characterized by a totality of knowledge, abilities, and skills, be able to solve standard and non-standard problems, as well as be motivated for long-life self-improvement and professional development.

2. Work experience in the field of logistics (1-3 years). Although employers require the job applicants to have experience of work, they are ready to consider alternative options, e.g. candidates having work experience in marketing, management, sales organization or other related fields. As in the above-given case, employers consider that work experience in related fields of activity will assist job applicants in quite easy and quick acquisition of specific professional competencies in logistics and supply chain management. In most cases, employers are satisfied with candidates having reference letters proving their experience obtained during practical training at the educational establishment.

3. Ukrainian language proficiency (high level of oral and written literacy), knowledge and understanding of professional logistics terminology. Employers expect that the job applicants have skills that will allow them to communicate freely when solving daily problems, negotiating with businesses, and doing business correspondence.

4. Computer literacy, knowledge of modern information and communication technologies. Employers expect job candidates to be able to use basic software applications and special professional programs, CRM technologies. Skills in using special programs ensure real-time data distribution and tracking of cargo, secure delivery procedures via traceability from the factory to customer, accurate monitoring of the discharging process, direct warning in the event of anomalies during deliveries, data collection for analysis and prevention, all contribute to a new and easily measurable value in the supply chain.

Informatization and digitalization as objective factors of socio-economic development change the conditions of professional activity of modern specialists, which leads to the need to combine various types of work in their professional activities. As a result, systems for training specialists with a number of new abilities in the professional sphere of their activity are being developed. Therefore, professional training should be based on the approach in which technological and informational components play an extremely important role, in addition to economic and managerial issues. Application of such a systemic approach combined with a modern competency model of training Junior Bachelors, Bachelors and Masters in the education system of Ukraine will meet European and world standards.

5. Foreign language proficiency at the Intermediate or higher level. Employers usually expect applicants to master English as a means of international business communication. Candidates who, in addition to English, speak any other foreign language at least at the Pre-Intermediate level have significant advantages. In modern conditions of integration and globalization of the economy, the ability to speak English fluently is a key competency, a means of international communication, a tool for joining the European educational, scientific and professional space, a condition for effective integration and a factor of the country's economic growth. The country needs specialists with developed professional competencies

necessary for interaction in the space of global and European communication. One of the tasks of educational institutions is to train specialists who will be ready to speak English in their professional activities.

It should be noted that the above-mentioned list of requirements refers to professional competencies. While hard skills are usually precisely specified in employers' requirements as compulsory, the availability of soft skills can be just desirable, but not clearly formalized by the employers. This trend is explained by the weak ability of employers to measure soft skills when hiring.

Summing up, we offer a T-shaped model of competencies of a future logistics and supply chain manager, which is based on a combination of deep hard and broad soft skills (Figure 4).

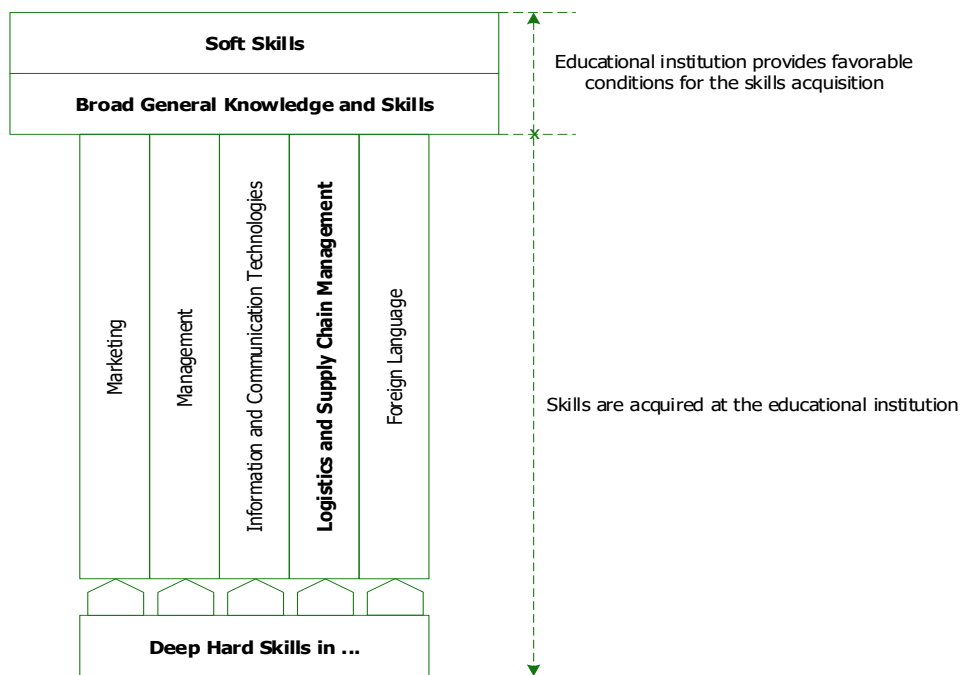


Figure 4. A competency model of T-shaped logistics and supply chain managers.

The model suggests the current requirements of employers to logistics and supply chain managers and provides:

- acquisition by the students of deep hard skills in logistics and supply chain management, marketing, information and communication technologies as well as foreign languages. Gaining knowledge in these areas and acquiring skills should be listed as program learning outcomes of training logistics and supply chain managers. Program learning outcomes should be provided by educational institutions through appropriate educational programs and their educational components;
- acquisition of a wide range of general knowledge and skills, as well as soft skills. Gaining general knowledge and acquisition of general skills, acquisition of soft skills can be realized by creating appropriate conditions for educational institutions during the training of logistics and supply chain managers. These conditions (including a student-centred approach to learning) should stimulate students to self-development and self-improvement.

This competency model is proposed for testing within the educational programs of educational institutions of the State University of Trade and Economics of Ukraine. Actually, the model is currently implemented when training students for higher education bachelor's degree in "Management" of the educational program "Logistics" at Vinnytsia State Trade and Economic Institute. The educational program is aimed at providing knowledge and skills in the field of logistics, supply chain, management and marketing. The program targets the students to form their ability to solve current problems of the development of domestic enterprises on the basis of the logistics concept and understand the specifics of modern business development in the context of globalization and European integration. This will form professional, scientific, analytical, organizational, managerial, pedagogical and research competencies, high professionalism and business activity, and the ability to make independent decisions.

An integral competency of future logistics and supply chain managers should be the ability to solve complex specialized problems and practical problems, characterized by complex and uncertain conditions in the field of logistics and supply chain management, involving theories and methods of social and behavioral sciences.

Key differences between the educational program "Logistics" provided at Vinnytsia State Trade and Economics Institute, and similar programs of other educational institutions involve the focus on developing the ability of applicants to use innovative tools of marketing logistics and the ability to develop efficient logistics supply chains, ensure their stability and reliability.

DISCUSSION

The research results presented in this can be of great interest to scientists, educators and practitioners working in logistics and supply chain management. Provisions that require further discussion, in our opinion, include possible limitations in the application of the competency approach to the training of logistics and supply chain managers. The possibility of introducing a T-shaped model of competencies of a future logistics and supply chain manager needs further discussion. Additional research and discussions have to resolve the issue of required hard and soft skills in future logistics and supply chain manager, as well as their optimal ratio.

CONCLUSIONS

Ukraine lacks a sufficient comprehensive assessment of the effectiveness of Ukraine's activities in the field of logistics and supply chain management. The level of Ukrainian logistics and supply chain managers has to be improved, and traditional approaches to their training developed in the past need to be reviewed. Therefore, Ukraine is currently experiencing a search for the ways of improvement of the training system and making attempts to substantiate the content of professional competences and competencies of logistics and supply chain managers through the formulation of appropriate standards for different educational degrees.

Professional training is a process of the formation of competences and competencies of the individual since their development is focused on improving the efficiency of work performed in various areas of professional activity. Training of logistics and supply chain manager should include both professional and personal development as such harmonization of the profession is the basis of the training system. Professional training of logistics and supply chain manager in Ukraine's education system should involve a competence-based approach, which requires training of a modern specialist as an integrated personality having a number of special and universal qualities. It is necessary to create conditions for managers to successfully acquire a set of hard (professional, technical) and soft (social, communicative, etc.) skills, ensure the formation of a competitive and relevant model of diverse competencies that will quickly and easily adapt to dynamically changing environmental conditions. All this can be achieved through the application of the competency approach aimed to form a model of competencies of the T-shaped graduate, i.e. a future logistics and supply chain manager.

Further challenges of the system of training logistics and supply chain managers that have to be explored include the content of the conceptual model of a multilevel national system for training specialists in logistics and supply chain management. It is necessary to substantiate the content, provide practical development and further implementation of educational training programs that will ensure the necessary breadth and depth required to create relevant competency models for logistics and supply chain managers.

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ПІДГОТОВКА МАЙБУТНІХ МЕНЕДЖЕРІВ ІЗ ЛОГІСТИКИ ТА УПРАВЛІННЯ ЛАНЦЮГАМИ ПОСТАВОК: КОМПЕТЕНТІСНИЙ ПІДХІД

Ця робота є продовженням циклу статей, у яких висвітлено результати наукових досліджень, присвячених проблематиці функціонування системи підготовки висококваліфікованих менеджерів, здатних забезпечити ефективне здійснення логістики та управління ланцюгами поставок; обґрунтуванню напрямів та розробці практичних механізмів її вдосконалення.

Стаття базується на аналізі наукової літератури та тематичних дослідженнях. Дослідження охоплює аналіз теоретичної літератури, тематичні дослідження, а також порівняльний аналіз.

У статті відзначено, що сучасні світові тенденції та зміни в суспільстві й економіці зумовлюють посилення вимог до підготовки висококваліфікованих менеджерів для ефективного здійснення ними конкретних видів трудової діяльності відповідно до потреб суспільства й ринку праці у сфері логістики та управління ланцюгами поставок. У цьому контексті розглянуто проблематику застосування компетентнісного підходу в підготовці майбутніх менеджерів із логістики та управління ланцюгами поставок і формування в них моделі компетенцій, яка відповідає сучасним вимогам ринку праці. Здійснено огляд наукової літератури щодо основних теоретичних засад формування компетенцій і компетентностей у процесі професійної підготовки менеджерів із логістики та управління ланцюгами поставок. Зосереджено увагу на необхідності формування базового ядра компетенцій, тобто моделі основних (базових) професійних компетенцій і компетентностей, що є ключовими для професійної діяльності фахівців. Наведено основні моделі компетенцій фахівців компаній, які дозволяють забезпечити ефективне управління сучасними компаніями. Вивчено досвід підготовки майбутніх менеджерів із логістики та управління ланцюгами поставок в Україні. Запропоновано концептуальну модель багаторівневої національної системи професійної підготовки з логістики та управління ланцюгами поставок. Запропоновано T-подібну модель компетенцій сучасних менеджерів із логістики та управління ланцюгами поставок. Обґрунтовано доцільність застосування компетентнісного підходу при підготовці майбутніх менеджерів із логістики та управління ланцюгами поставок в Україні.

Ключові слова: підготовка менеджерів, логістика, управління ланцюгами поставок, компетенція, модель компетенцій

JEL Класифікація: M2, I2