USE OF ELECTRONIC EDUCATIONAL RESOURCES FOR THE DEVELOPMENT OF DIGITAL COMPETENCIES OF COMMERCE STUDENTS

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Abstract: The article examines approaches to the development of digital competencies of commerce students, in the context of increasing requirements for the level of training of specialists from the labor market. A study of the directions of digital transformation in the field of trade, corporate systems for automating business processes of trade enterprises, the requirements of employers, and Russian and foreign experience in training specialists in the field of trade has been carried out. The authors have developed electronic educational resources that are used in the educational process to improve the quality of training specialists in the field of trade.
Keywords: digital technologies, digital competencies, university, online learning, trade.

1. Introduction

The sphere of trade is one of the sources of development of the modern economy. According to the Association of Retail Companies, more than 20% of Russia's GDP is provided by the trade industry [24]. On the part of employers – trading companies, requirements are formulated for specialists regarding the level of knowledge of specialized digital technologies and the level of computer literacy in general.

The following should be noted among the reasons influencing the approaches to the development of digital competencies of commerce students:

1. Reduced mobility of students due to the COVID-19 pandemic;
2. The increasing role of online education of students and listeners;
3. Rather rapid development and spread of "end-to-end" digital technologies in the field of trade, which include, in particular, big data processing technologies, neurotechnologies and artificial intelligence, distributed registry technologies, and those which require additional knowledge and the development of appropriate work skills among students, trainees, and teachers.

The expansion of the use of online courses that include electronic testing of students among the current trends in the development of approaches to improving education in universities. One of the components of online courses focused on the development of students' digital competencies is the creation of electronic educational resources (EER).

The COVID-19 pandemic has had a noticeable impact on the education sector, accelerating the ongoing digital transformation. This leads to an increasing role of digital information and communication technologies directly in the educational process (operational processes of universities and other educational institutions), contributes to an increase in the number of educational Internet resources. Meanwhile, the number of specialized educational resources for training specialists in the field of trade is not very large.

Therefore, the elaboration and improvement of methods and tools for the development of digital competencies of students studying in commerce is an urgent task, the results of which will be in demand by employers to improve the activities of trading companies.

2. Literature review

The processes of digital transformation in the field of trade have recently occupied an important place in scientific research. A large number of scientific publications are devoted to the issues of improving the activities of trade enterprises through digital transformation.

The impact of the COVID-19 pandemic on consumer behavior using big data is studied in [Brandtner et al., 2021]. Various aspects of the use of big data in trading companies are analyzed in [Dekimpe, 2019], [El-Kassar and Singh, 2019], [Shankar, 2019], [Trabucchi and Buganza, 2019], [Wamba et al., 2019], [Aversa et al., 2021].

The issues of using online advertising based on consumer behavior data are analyzed in [Lee and Cho, 2019], [Aiolfi et al., 2021]. The impact of big data on marketing research is studied in the publications [Johnson et al., 2019a], [Johnson et al., 2019b], [Vermeer et al., 2019].

The analysis of consumer behavior in social networks is carried out in [Pantano et al., 2019].

The impact of digital platforms on the transformation of processes in the retail sector is analyzed in [Hänninen et al., 2017], [Reinartz et al., 2019], [Timo et al., 2021], [Semenova, 2020].

The use of gamification in mobile applications to attract buyers is discussed in [De Canio et al., 2021].

One of the notable trends in the development of digital technologies in the field of trade is the expansion of the use of virtual/augmented reality technologies. The publication [Boletsis, C. and Karahasanovic, 2020] discusses the use of virtual and augmented reality technologies in retail. The publication [Castillo S, M.J. and Bigne, E., 2021] analyzes the adaptation of self-service models using augmented reality technologies. A comparative analysis of the behavior of customers in physical retail outlets and stores using virtual reality technologies is carried out in [Pizzi, 2019].

3. Results

One of the results of the authors' work is an EER. EER is an educational resource presented in electronic and digital form and includes the structure, subject content, and metadata about them [Denisov, 2018]. Metadata is information about educational content that characterizes its structure and content, necessary for searching for EER through a technological learning system.

An EER may include text, graphics, video, and audio data, the software necessary for its use in the learning process. The structure of the developed EER corresponds to the work program of the "Information technologies in professional activity" discipline. The technical requirements for the EER were determined by the capabilities of the university's electronic educational environment (learning management system, LMS), which was an information system based on the 1C: Enterprise software platform.

The purpose of the discipline "Information technologies in professional activity" is to study the capabilities of modern universal automation systems designed to solve management and accounting problems at a trading enterprise, as well as to gain practical skills in working with systems designed to automate business processes of trading organizations. The EER on this discipline contains theoretical (lecture) material, practical tasks, tests, control questions, reference material (glossary). It is intended for the independent study of theoretical material (textual, hypertext). The glossary allows the learner to get the necessary background information on the terms used at any time. The glossary includes information both duplicating and supplementing the textbook material. Practical tasks allow visually linking theoretical knowledge with specific problems that they can be directed to solve.

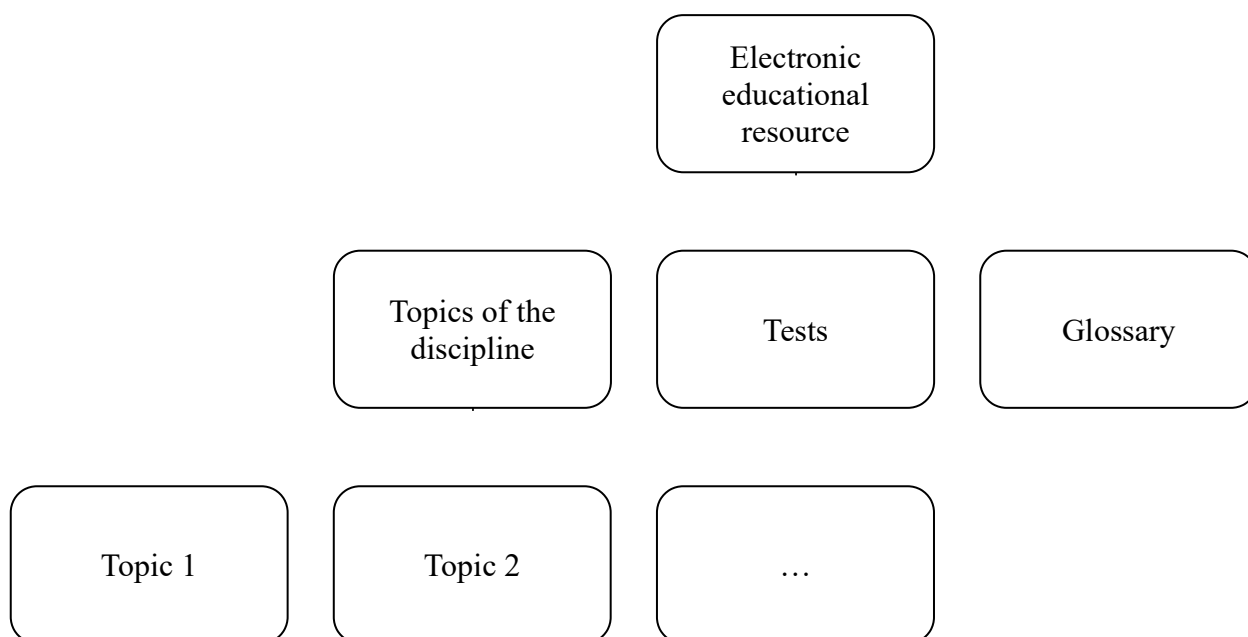The structure of the EER is shown in Figure 1.

Figure 1. Structure of an EER

The names of topics and a summary of the EER are presented in Table 1.

Table 1.

Structure and content of an EER

No.No.	Topic	Summary
1	Information technologies for the provision of trading activities.	Legal support of the trading company's activities. Legal reference systems (Consultant Plus, Garant, Glavbukh). Corporate information systems, their purpose, and classification. Modern enterprise management concepts: MRP (Material Requirements Planning), MRPII (Manufacturing Resources Planning), ERP (Enterprise Resource Planning), CSRP (Customer Synchronized Resource Planning), CRM (Customer Relationships Management). Information systems and technologies in the field of trade: purpose, types, examples. End-to-end digital technologies in the trade. "Smart store".
2	Using the functionality of the applied solution "1C: Trade Management 8" in the management of a trading enterprise	The main functionality of the applied solution "1C: Trade Management": customer relationships management (CRM), sales rules management, sales management, inventory management, cash management, financial accounting. Setting up accounting in 1C: Trade management": the creation of an information base, filling in directories, setting up accounting parameters. Working with documents: creating and conducting documents, creating some documents based on others, viewing and correcting document movements. Trade agreements with suppliers, the formation, processing, and payment of orders to suppliers, the formation of receipt documents, purchases using the order scheme, the return of goods to suppliers, planning to ensure inventory. Customer relationship management in the 1C: Trade Management application solution: customer interactions, transaction management, standard and individual agreements with customers, commercial offers, customer orders, payment of customer orders, return of goods from customers. Retail

		trade: sales in automated and non-automated outlets. Commission trading: receipt and transfer of goods for commission. Settlements with accountable persons. Determination of financial results in the application solution "1C: Trade Management". Organization of data exchange with the information base "1C: Accounting".
3	Internet technologies in trade	Internet technologies in trade: websites and their characteristics, ways to promote websites. Online stores: purpose, types, features of use. Creating an online store layout. Online trading using social networks. Mobile applications in trade.
4	Computer technologies of project management in trade	The concept of a project, classical project management methods, project characteristics (temporality, unique results, consistent development). Project environment, project lifecycle. Development of a project plan: structural planning, calendar planning, and operational project management. Flexible (agile) methods of project management. Project management tools. An example of project development in the MS Project computer program. Project analysis. Updating the project. Internet services for project management.
5	Computer technologies for visualizing business in trade	Visualization of information at a commercial enterprise based on the Microsoft Visio package. Organization of brainstorming sessions and other expert methods of evaluating the work of a trading company. Modeling of the staffing of a trading company, including the hierarchical structure, personnel reporting. Modeling of premises layouts of commercial enterprises, including infrastructure elements. Modeling of business processes of commercial enterprises. Internet services for visualization of business processes of a trading enterprise.

An integral part of the EER is a set of test tasks on all topics of the work program of the discipline. The testing system contains more than 300 test questions and is a universal software shell with a subsystem that allows accumulating and analyzing test results.

Table 2 shows information systems, software products, Internet services that are used in the educational process within the discipline "Information technology in professional activity" in the "Commerce" direction.

Table 2.

No.No.	Name	Appointment
1	"1C: Trade Management"	Automation of trading operations
2	1C: Accounting	Automation of accounting
3	SPARK (spark-interfax.ru)	Verification of counterparties
4	Microsoft Visio, Figma, Canva	Visualization of processes
5	Microsoft Project, ganttpro.com	Project management
6	WIX, Bitrix24	Online store

The expansion of the use of online counterparty verification services by trading companies is one example of digital transformation. Such services include SPARK of the Interfax company (spark-interfax.ru), "Kontur.Focus" (https://focus.kontur.ru), and Integrum (www.integrum.ru) and others. Counterparty verification services allow: checking the register of legal entities and individual entrepreneurs, checking the correctness of the legal address, checking the managers and founders of the enterprise, including the register of disqualified persons, checking the payment of taxes by the

counterparty, and the provision of tax reports, checking the file of arbitration cases, checking information about the bankruptcy of the enterprise, checking counterparties on the bailiffs' website. The scheme of checking counterparties using Internet services is shown in Figure 2.
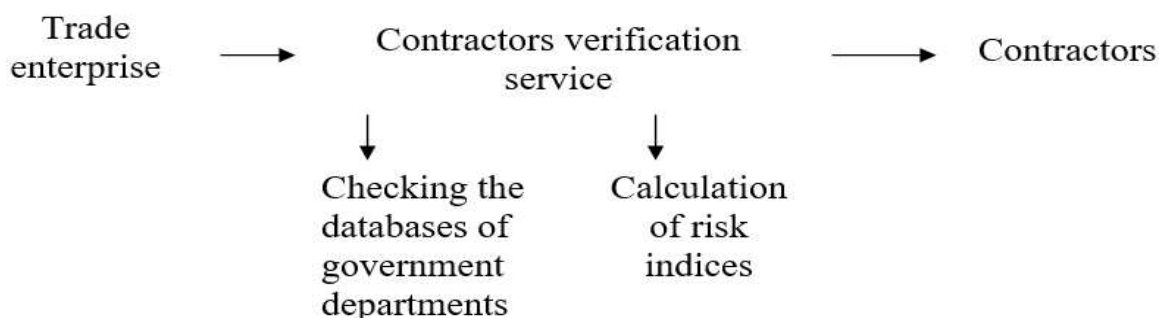

Figure 2. Scheme of verification of counterparties of trading enterprises
Source: [Eydlina, 2020]

The SPARK information system used in the educational process makes it possible to use specially developed indicators (indices) to assess the reliability of counterparties, which include: due diligence index (DDI), financial risk index (FRI), payment discipline index (PDI). The possibilities of using indexes are shown in Figure 3.
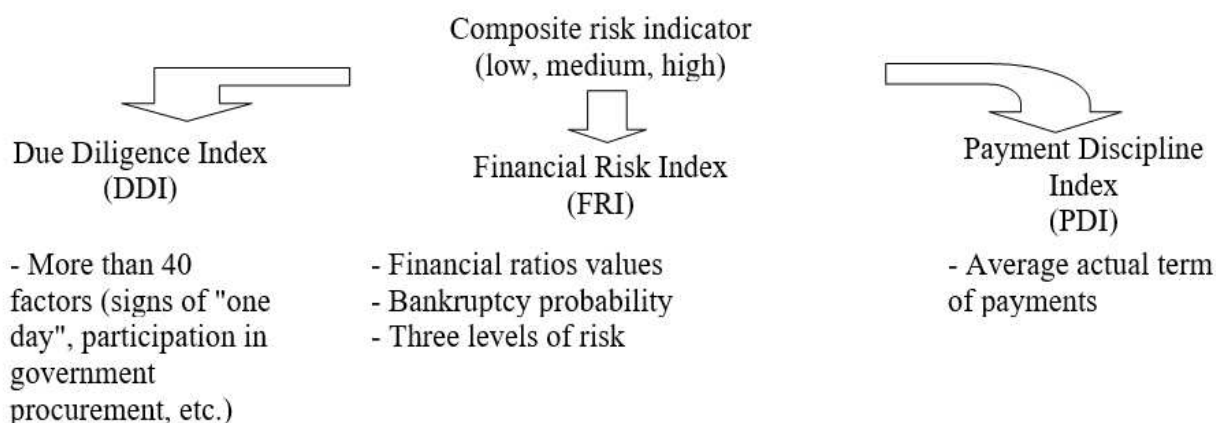

Figure 3. SPARK indexes
Source: [Eydlina, 2020]

These indices are composite indicators, for the calculation of which the technologies of analysis of big data and machine learning (Machine Learning, ML) are used. The use of SPARK indices helps to reduce the level of risk when interacting with counterparties. The 1SPARK Risks service is integrated into 1C software products for automating trading activities.

The inclusion in the EER of educational materials on working with information and analytical systems, in particular, SPARK, allows students to get acquainted with modern intelligent digital technologies and develop digital competencies.

4. Discussion

Rapid changes in the field of trade, largely occurring as a result of changes in the field of information technology, require appropriate changes in the field of education and training for this subject area. The processes of improving the EER on the discipline "Information technologies in professional activity" should reflect the current trends in the development of trade and information technology, in particular, the digitalization of business processes of trading companies and the expansion of the use of end-to-end digital technologies. This requires the expansion of cooperation

between universities and leading IT companies and the opportunity to use modern information systems and Internet resources in the educational process.

The authors believe that in the process of training specialists in the field of trade, it is necessary to pay considerable attention to the software products and services of 1C, which occupies a leading position in the Russian market of corporate automation systems [25].

It is necessary to take into account modern trends in the development of Internet Commerce and Internet services for trade, in particular, offered by Google and Yandex.

In the educational process, it is necessary to expand the study of tools for analyzing sources of big data in trade, which include social networks, to study examples of the use of big data by trading companies.

Thus, the training of specialists in the field of trade, which is one of the leaders among the sectors of the economy in terms of the introduction of digital innovations, requires regular improvement of the content of educational and methodological materials.

5. Conclusions

The results of the use of EER in the educational process for the preparation of bachelors in the field of "Commerce" allow drawing the following conclusions:

1. The use of an EER when conducting classes with students of the Faculty of Economics of Trade and Commodity Science, as well as with students of the Faculty of Distance Learning, contributes to improving the quality of student training. This is confirmed by the results of examinations conducted in the form of computer testing. Meanwhile, due to the ongoing changes in the field of trade and information technology, the EER requires regular updating;

2. The spread of mobile devices and Internet applications allows concluding that the material of an EER would be useful to adapt for mobile devices;

3. Gamification elements can be used for a more visual presentation of educational material in several sections of the EER;

4. In addition to standard test tasks, it is necessary to develop tasks to test students' knowledge using a game approach (gamification);

5. An important direction for further improvement of the form of using EER for training specialists in the field of trade is the use of virtual and augmented reality (VR/AR) technologies.

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