APPLIED INFORMATICS IN BUSINESS

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Abstract. Progress does not stand still; in various industries there is a gradual modernization and automation of processes, a transition from paper to electronic document flow. When working in a company, local and global networks are increasingly used, which raises the problem of confidentiality and information security. These and many other requirements can be realized using applied computer science.

Key words: applied informatics, business, method, network, problem.

Introduction

Applied computer science is one of the most modern and promising areas of the 21st century, which includes the science of design, development and application of information and communication systems in business. Applied management informatics covers the planning, design, implementation, operation and development of information and communication technologies that are used to support, strategic planning and decision-making in business and public administration. Applied computer science combines computer science itself and those areas in which computer knowledge can be applied [1]. Applied computer science allows you to create software and complex information systems to meet the needs of large, medium and small businesses. Process automation eliminates many problems in communication and interaction between business entities. However, the use of products requires a specialist who combines technical and business knowledge to organize the processes. Business processes are a complex hierarchical system that ensures the implementation of strategy and tactics. Creating a system that meets business needs and achieves its goals is the task of business IT professionals.

Applied computer science is used in the formation of complex solutions for business and government agencies. His areas of interest include the development of innovative projects, the design and development of virtual enterprises, the organization of process management and business in general.

The structure of applied computer science consists of the following components: performing system analysis to study business processes in order to identify strengths and weaknesses; making forecasts based on analysis data; business process modeling, integration process management; monitoring, support and management of technologies.

The modern economy interacts with high technologies that require integration with existing economic processes. Applied computer science specialists need to understand how relationships between business entities are formed and understand the laws of the market. It is also important to know the regulatory framework, which provides guarantees for all aspects of economic activity [2].

Economics covers the stages of production, which include the creation, distribution, marketing and final consumption of products. There are relationships between business entities that require legal regulation, as well as the presence of certain government institutions that reduce transaction costs and time for various operations. Interaction processes are provided, among other things, by applied computer science.

Information technologies today penetrate into all spheres of human activity. They must take into account the specifics of the relationships that develop between subjects. If we talk about business, the following aspects are important here:

- economic entities are independent in their actions, they pursue their own goals and objectives;
- regulation of relations between subjects is carried out with the help of regulatory documents and ethical standards;
- the influence of the state is indirect;
- due to the characteristics of virtual enterprises, data protection is of paramount importance [3].

Simultaneously with the discussion on key capabilities of IS graduates, there is an ongoing debate regarding the nature and identity of information systems as a discipline. Most of the debate is fo- cused on whether information systems is informed by the business discipline or if it can be rooted in other domains, like healthcare or public administration. Indeed the current model curricula for IS undergraduate studies has clearly identified business as the domain in which IS is located (Gorgone, Feinstein, Longenecker, Topi, Valacich & Davis, 2002). Although ongoing curricula revision extends this view and recognizes that information systems is a discipline that integrates technology and organizational processes with domain expertise, domain knowledge and business knowledge is still seen as fundamental to the information systems discipline.

Within the business informatics community, broad agreement exists that business informatics shows numerous similarities to the discipline of information systems; however, there are some particular characteristics that makes business informatics a discipline in its own right. First emerging in the 1970s as a technology-oriented course in business, over the last decade it became an accepted field of research and study. As a stream of information systems, business informatics focuses on business information systems as socio-technical systems comprising both machines and humans (Ferstl & Sinz, 2001; Heinrich, 2001; Retzer, Fisher, & Lamp, 2003; Wissen- schaftliche Kommission der Wirtschaftsinformatik, 1994).

However, business informatics combines and complements explicitly the domains of informatics and business studies. Informatics is primarily concerned with the technology of information and communication systems, while business studies focuses on management functions. Business in- formatics aims to support business functions by applying informatics principles and technologies. Business informatics is concerned with the concept, development, implementation, maintenance and utilization of business information systems (Disterer et al., 2003; Scheer, 1998). Business informatics also includes the management of information systems while it emphasizes the rela tionship between humans, business functions, information and communication systems, and tech- nology (Heinrich, 2002). Defined as a science discipline, business informatics is generally cate- gorized as

- applied science that studies real world phenomena,
- formal science that creates and applies formal description methods and models,
- engineering discipline that systematically designs and constructs information and com-munication systems (Wissenschaftliche Kommission der Wirtschaftsinformatik, 1994).

Therefore business informatics is an interdisciplinary subject (Gesellschaft für Informatik, 2003). It can be summarized as a socio-technological and business oriented subject with engineering penetration (Disterer et al., 2003). In the following section, by comparing selected study pro- grammes, we aim to indicate differences between typical information systems and business in- formatics programmes.

For our study we compiled a list of different subjects taught in the selected degree programmes. However, due to the large number of subjects, a further classification was necessary in order to identify differences between the degrees. Applying the framework above, we assigned particular courses to our categories in the framework. The qualitative results are presented along with char- acteristics of the terminology used, content, structure and legal framework as well as credit sys- tem.

Programme Layout

The central focus of the curriculum for business informatics is to educate individuals to plan and lead IS-related projects, both technological and organisational. The core aim is enabling students to apply technological solutions and develop information systems architectures to solve business problems of organizations. With this goal in mind the curriculum focuses on an engineering and methodology

perspective. Intended intakes for the programme are students who have achieved a primary degree in computing, computer science, software engineering, or a comparable disci- pline. Furthermore, the objective was to integrate inter-cultural work experiences into the pro- gramme. The programme is designed to be completed in one calendar year of full-time study, with 90 ECTS workload. It consists of two taught semesters followed by a practical project in thethird semester over the summer months.

Conclusion

The above elements of interaction require a systematic approach to the creation, implementation and maintenance of information systems, taking into account the specifics of the field of activity that they serve. That is, the created software products and their support are determined by the purpose of their use. Applied computer science in economics makes it possible to combine two fundamentally different areas and form a single effective system.

Thus, economics has long been an independent scientific field. But applied computer science, which itself appeared relatively recently, has a wider scope than economic processes. However, given that every business entity, in one way or another, enters into economic relations every day, applied informatics makes it possible to facilitate this process, ensuring its safety and efficiency.

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