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Innovation and knowledge trends through standardisation of IT applications

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ABSTRACT

The paper presents part of a study on collective knowledge and innovations in IT as well as an extract segment from a comparative statistical analysis of trends in the global–local standardisation of the pathways of knowledge and IT innovations in IT applications. The aim of the paper is to provide and promote educational and financial resources for the quality of knowledge in IT application. ISO (global) and SRPS (local) documents on IT and IT applications have been extracted from this statistical sample and analysed.
The main results of the research are presented with phases of the PDCA methodology

1. Introduction

The paper deals with standardised pathways of knowledge and innovations in information technologies (IT), particularly in the subfields of IT application in industry. There is a growing problem in terms of the continuous improvement of individual knowledge in relation to standardised (partly public and collective) knowledge of new technologies. One aspect of the problem is the continuous improvement of product quality (education services), another concerns the price of knowledge, and a third pertains to the presentation of knowledge [1]. Analysis of the standardisation of collective or global knowledge in the subfields of IT innovations and IT applications is primarily based on ISO standardisation [2], supported by documents for the operationalisation of processes by virtue of individual knowledge. The study also encompasses the pathway of local knowledge in SRPS (SRPS is an abbreviation for the standards in Serbia [3]). Over the last few years SRPS have been created by using European norms (EN) on the local environment platform of the European Union (EU), a new concept.

The expansion of IT innovations and IT applications permanently widens the gap between collective and individual knowledge. With IT applications and IT innovations, the distance between the collective and individual becomes self-evident and manifests a tendency towards ever-increasing growth. With the globalisation of business and localisation of financial crises, additional state issues directly affect education.

With the advent of IT innovations, appropriate solutions to these issues became possible. The paper presents skills, innovations and experiences which are of particular importance in standardised IT applications and have been accumulated over years. The quality of IT services and IT innovations requires a multidisciplinary approach as well as teamwork by experts in various scientific fields.

As in [4], this paper points to the fact that standards play a key role in the development of IT infrastructure in emerging economies and places further emphasis on the significance of IT standard innovation. The problem in many environments is how to obtain information and then create new forms of knowledge from existing information. The solution to this problem requires the use of the top-down principle which enables information to be transformed into social knowledge and the standardisation of knowledge presentation [1], as in this paper.

The global classification of IT innovation subfields, IT applications and the accompanying knowledge for organisational innovations has been applied. This classification is of both strategic and national importance for knowledge management. According to the *International Classification of Standards* (ICS), information technologies are classified in field 35, which comprises 12 segments. The paper focuses on IT innovations and IT applications (field 35.240, including 25.040) which are classified in 11 subfields, ICS-3 = 35.240.xy [2,3]:

35.240.01 — application of information technology in general
35.240.10 — computer-aided design (CAD)
35.240.15 — identification cards and related devices, *including application of cards for banking, trade, telecommunications, transport*
35.240.20 — IT applications in office work, *including text processing systems, text communication, text presentation, Office Document Architecture (ODA)*
35.240.30 — IT applications in information, documentation and publishing, *including Standard Generalised Markup Language (SGML), automatic translation machines*
35.240.40 — IT applications in banking, *including automatic banking facilities, identification cards for banking purposes*

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