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EFFICACY FACTORS OF IT SYSTEMS CONCERNING ACCOUNTING SYSTEM OF THE COMPANY.

Summary

Nowadays, when every activity of a company is burdened with huge uncertainty, companies willing to survive in open market's reality target their activities at limiting investments which are unprofitable and which don't bring measurable benefits. It is similar with integrated IT systems. Despite the fact that their goal is to bring unmeasurable benefits, it would be good if the enterprise of introduction of integrated information systems was efficient and effective. The article shows opinion of integrated information systems' users' as far as efficiency of these systems is concerned with particular emphasis on accounting issues.

1. Introduction

Currently, relevance and necessity of using management IT management system in the company seems to be undisputed. Benefits that can result from

implementation of IT system, i.e. increase of work efficiency, increase of profitability, stock reduction, shortened time of reaction for an order or improvement of promptness⁶ seem to be much higher than investment on the side of the company.

The system itself in IT, according to W. Chmielarz⁷ is: "... a group of cooperating elements, mostly software and hardware". H. Sroka claims that: "IT system is a separated part of the information system which, according to adopted goals, is computerised"⁸. Generalising, it is possible to say that IT management system is a system which supports decision making, in which data processing is done by the use of computers. A. Kijewska⁹ goes further, giving the definition of integrated IT system. She claims that integrated IT system is a system which, with the help of modules, serves most areas of company's activities starting from marketing and planning, supply, through production preparation and its control, plant maintenance, through financial-accounting works and human resources management.

The main aim of IT system is to supply necessary information needed in the process of decision making in the company. This aim is especially meaningful when it concerns company's accounting. Data received by accounting department has to be eligible credible, correct and certain. Informatisation of this area of company's activity seems to be essential. Properties that should characterise accountancy-information system in the company will have a direct shift onto efficacy factors of integrated IT systems.

The main goal of the article is to present factors of efficacy of integrated IT systems which result from properties of accountancy system of the company.

In the article, the properties of the accountancy-information system has been characterised and the list of determinants of efficiency of integrated IT systems regarding accountancy-system has been presented.

2. The issue of efficacy of integrated IT system

The system's efficacy is the property of this system which is highly difficult to define. It is because the efficacy itself is in many publications very often mistaken or interchangeably used with such concepts as: effectiveness, efficiency, productivity or performance¹⁰. In fact, these concepts are

⁶ According to American Association of Production and Inventory Control [Kisielnicki]

⁷ Chmielarz W.: Systemy informatyczne wspomagające zarządzanie. Aspekt modelowy w budowie systemów. Dom Wyd. Elipsa, Warszawa 1996.

⁸ Olszak C. M., Sroka H.: Zintegrowane systemy informatyczne według zarządzaniu. Wydawnictwo AE w Katowicach, Katowice 2001.

⁹ Kijewska A.: Systemy informatyczne w zarządzaniu. Wydawnictwo Politechniki Śląskiej, Gliwice 2005.

¹⁰ Bagiński J., Onyszczyk J., Siwiek M.: *Skuteczność, efektywność a produktywność*. <http://sigma-not.pl/download.do?mode=spx&id=18121&orderId=6436&sessionId=0DE578F172FAD9E33081B03273148174.tomcat1> (25.04.07), Broniarek W.: *Gdy Ci słowa zabraknie. Słownik synonimów*. Haroldson Press, Barwinów 2005., Encyklopedia organizacji i zarządzania. PWE, Warszawa 1981, Potocka A., Skonieczny J.: *Efektywność IT w przedsiębiorstwie w świetle badań empirycznych*. [w] Knosala R.: *Komputerowo zintegrowane zarządzanie*. Tom I. WNT, Warszawa 2007.

synonymous, however, they are not identical and treating them in such a way is a methodological mistake.

Efficacy is defined as effective actions evaluated according to approaching to the goal which has been set¹¹. Quoting T. Kotarbiński¹² it is “... *action that leads to result intended as a goal...*” Similar definition is given by J. Stoner¹³: it is “... *ability to set appropriate goals: “doing the right things” ...*” However, efficacy of action is a degree of goal realisation in which this action is meant to end. W. Kieżun¹⁴ points out that efficacy regards mainly action. This author considers efficacy as one of the action features, next to profitability and economy. In economic life two approaches to evaluation of the case are possible: ex post (retrospective) and ex ante (prospective). In the retrospective approach, efficacy is considered in relation to the effects obtained as a evaluation of the planned effects. However, in a prospective approach, planned effects are assessed in relation to the objectives. Hence, in prospective terms efficacy is a fit. In this work the effectiveness of management IT systems is understood as the degree of fit to a company in which the system operates. A similar approach can also be found in English literature, for example in publications PA Strassmann¹⁵, and T. Murphy¹⁶.

Willing to talk about the efficacy of an IT system we should also cite the definition of system efficacy, which is defined as the ability to perform its functions properly in long-term, improving itself and the environment of its actions. The efficacy of the management system is an appropriate way of realising the used management style which enables economically reaching the set goals. If the goals undergo decomposition, the efficacy is gradable. K. Sobolewski¹⁷ says that gradability is “... the susceptibility or the ability of the test process to break down into smaller, clearly distinguishable fragments which constitute its whole...”. However, ungradable process is a process in which “... it is impossible to recognise any component”.

Taking into account above definitions, we can say that the efficacy of integrated IT systems is the ability to realise their functions properly in long-term.

IT system requirements relating to the accounting system

¹¹ *Słownik ekonomiczny przedsiębiorcy*. Wydawnictwo Znicz, Szczecin 2000.

¹² Kotarbiński T.: *Traktat o dobrej robocie*. Zakład im. Ossolińskich Wrocław, Warszawa, Kraków, Gdańsk, 1975

¹³ Stoner J., Freeman R., Gilbert D.: *Kierowanie*. PWE, Warszawa 2002.

¹⁴ Kieżun W.: *Sprawne zarządzanie organizacją*. Oficyna Wydawnicza SGH, Warszawa 1998.

¹⁵ Strassmann P. A.: *The Squandered Computer: Evaluating the Business Alignment of Information Technologies*, The Information Economics Press, New Canaan, Conn 1997 za J. Cypryański: *Metodyczne podstawy ekonomicznej oceny inwestycji informatycznych przedsiębiorstw*, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, *Rozprawy i Studia T. (DCCXLIII) 669*, Szczecin 2007,

¹⁶ Murphy T.: *Achieving Business Value from Technology*, John Wiley & Sons, Hoboken, New Jersey 2002 za J. Cypryański: *Metodyczne podstawy ekonomicznej oceny inwestycji informatycznych przedsiębiorstw*, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, *Rozprawy i Studia T. (DCCXLIII) 669*, Szczecin 2007,

¹⁷ Sobolewski K.: *O pojęciu skuteczności i pojęciach związanych*. Wyd. Uczelniane Politechniki Koszalińskiej, Seria Zarządzanie i Marketing, Koszalin 1998.

Company managing is a complex process by which various actions and decisions are taken in order to enable reaching goals efficiently. Despite the variety and variability of goals and the means of their realisation, managers encounter in their managing practice problems requiring constant and periodic solving, which regard basic functions of management process: planning, organising, motivating and controlling. Special role in the managing system of the company is played by the accounting system whose main tasks are¹⁸:

- to provide management levels with current and periodic numerical information, syntetic as well as analitic
- creating numerical bases for periodical and current company analysis
- enabling performing functions of external and internal control of the company's activities and its financial situation
- shedding light on the current manifestations of mismanagement and all kinds of economic reserves produced in the company,
- verification of ex-post plans, norms and forecasts
- securing and storing information contained in the registration device and reports, together with appropriate, comprehensive and reliable documentation.

Implemented in an enterprise management IT system that reflects the basic functions of management should primarily enable the realisation of the tasks of information accounting system. First of all, it should ensure legality of accountancy conducted by the use of computers. In particular, the management IT system should meet the needs of internal and external system users. External needs, namely those that enable customers of financial reports to fulfill reporting, tax and settlement duties. External needs are reflected in the legislation, according to which it is necessary to draw up accounting books in chronological and synthetic order according to classification criteria enabling financial reporting. The group of external needs are needs of the in-house IT system users which relate to the content and form of the reports that enable enterprise managing.

Efficacy determinants of information system relating to the accounting system of the company.

Factors of efficiency of integrated systems have been identified in certain areas of company's activities. Efficiency of information system is influenced not only by those factors which are connected with the system, but also those which result from the environment in which the system operates. The company however, is not separated creation. It operates in certain environment which influences it, forcing changes. The company's environment while forcing changes in the company, also forces changes in the IT system. Efficiency determinants

¹⁸ Micherda B., *Analityczna funkcja rachunkowości*, Wydawnictwo AE w Krakowie, Kraków 2001, str. 24-26.

where thus identified in the area of the company environment, the company alone and information system. Identification of determinants was also broadened by human factor connected with IT systems, namely their creators and users. Areas in which the efficiency determinants were sought were marked: I – company’s environment, II – companies, III – IT systems creators and IV – information system.

Users of management IT systems took part in research over efficiency of integrated information systems. Those users were divided into two groups: IT systems users which consisted of those users who have been working with the IT system for over two years. The second group consisted of IT systems creators whose seniority was over two years. They were asked to evaluate individual determinants in the scale form 0 to 10. Jointly, 84 determinants were subjected to evaluation.

In the research 174 polls were obtained from IT system users and 103 from IT system creators. The whole stage of obtained results’ analysis was divided into several substages. Firstly, the analysis of the sample was done in order to answer whether the examined expert groups are agreeable as far as efficiency of integrated information system is concerned. For this purpose the Kendell and Babington-Smith’s¹⁹ concordance coefficient for both groups was calculated. Value of the coefficient was shown in table 5. For both groups the coefficient’s value is satisfying.

Table 5 Juxtaposition of critical values χ^2 for expert set.

	Users group	Creators group
Number of experts	$J = 175$	$K = 103$
Number of determinants	$n = 84$	$n = 84$
Kendell and Babington-Smith’s concordance coefficient	0,20	0,43

Source: Own study

Next, it was examined how the determinants behave in the area of each sample in accordance to: company environment, company, IT system creators and IT system itself. The analysis was done by the use of a number of statistic analysis. The next step was to find those efficiency determinants according to importance of which the examined groups were unanimous. By the means of appropriate descriptive statistics the determinants were divided into importance classes in areas of individual research group and then all determinants were grouped into adequate importance classes for the whole population.

¹⁹ Kendell and Babington-Smith’s concordance coefficient is the most common and used coefficient of expert groups’ accordance [15]. It is calculated base on the formula: $W = \frac{12S}{J^2(n^3 - n)}$, where: n – number of determinants, J – number of experts in the group of users

In individual importance group, for the needs of this article, efficacy determinants of integrated IT system resulting from specificity of accounting IT system. The group “very important” consists of:

- reliability of the data in the system (IV/5)
- data safety (IV/9)
- Simplicity of interface service (IV/17)
- System’s conformity with Polish legislation concerning enterprise (IV/27)
- System’s conformity with labour procedures being obligatory in the given company (IV/25)
- System’s conformity with real processes occurring in the company (IV/26)
- System’s conformity with ZUS regulations (IV/22)
- possibility to implement changes into information system (IV/29)
- The group “important” consists of:
 - Quality of company’s information system (II/9)
 - Information system modules integration(IV/15)
 - System conformity with tax directives and UE customs code(IV/20)
 - Possibility to create new solutions in the system(IV/31)

The group “semi-important” consists of:

- Quality of company’s information system (II/9)
 - Users’ of information system acquaintance with information technology (II/22)
 - Vision and strategy of company’s activity(II/6)
 - Complexity of information system(IV/2)
- The group “of little importance” consists of:
- Employees’ fluctuation in the company(II/26)

Summary

The article presents the final results of the research on the efficacy determinants of the integrated IT systems relating to the accounting IT system. The determinants of the effectiveness of integrated IT systems relating to the accounting IT system were presented. These determinants were classified in groups “very important”, “important”, “semi-important” and “of little importance”. Reflections on the characteristics of the IT system taking into account the requirements of the accounting system are a very important and vital issue. It is because the quality of accounting data is highly influential on efficiency of decisions made.

It should be noted that the list of factors which is presented in the work on the basis of literature and empirical research, is not a closed list. This list will be increasing along with the changes in the enterprise, the scope of the implementation of the IT system or set implementation goal.

List of selected factors from the perspective of further work on the effectiveness of integrated information systems seems to be very important. It constitutes the list of indispensable factors which users of management IT systems should take into account on every level of the process of “system purchase”: the selection, implementation and use of the system. Each of the identified determinants of effectiveness is important and relevant. Taking into account all of them increases the likelihood of achieving the intended purpose.

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