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DEVELOPMENT OF THE STRATEGY OF INFORMATION COMMUNICATION TECHNOLOGY

Abstract: The introduction of Information and Communication Technology (ICT) accelerates the transformation of a business organization and its methods of operation. However, provision of information or services requires consideration and preparation of a strategic plan. Although the business organizations as well as governmental institutions have formulated business strategy, they still have difficulties with constructing and implementing ICT strategy. Discussions on the functional strategies are mostly undertaken by the business strategy specialists, therefore the practitioners do not have good patterns to follow. In the paper theoretical approaches to ICT strategy formulations are delivered and analysis of six case studies is presented to visualize the practical solutions of ICT strategy development.

Keywords: business strategy, ICT strategy, governmental institutions, IT portfolio.

1. Theoretical framework – ICT strategy management

The term "strategy" is derived from the Greek meaning "the art of the general". A strategy is perceived as something an organization needs or uses in order to win or establish its legitimacy in a world of rivalry [Coad 2005]. For Mintzberg and Quinn, strategy refers to a plan (rules leading to a goal), strategy can be a ploy (a trick to beat competitors), a pattern (a way of behaviour), a perspective (a vision a set of assumptions) and a position (a safe place) in the business environment [Mintzberg, Quinn 1991]. Strategy formulation is a version of positional analysis, concerned with the status of an organization relative to competition and other aspects of its environment, such as customers, suppliers, investors, and the governments of the countries within which it operates. The term "collective strategy" is used by Astley and Fombrun [1983] to describe the situation in which strategy formation is the result of a process of collaboration and negotiation between separate organizations acting in partnership. Collective strategies have become increasingly popular because individual organizations do not always have the resources and competences needed to cope with increasingly complex environments. It may be more economically viable to obtain specific materials, skills, technologies, finance or access to markets

by cooperating with other organizations rather than through individual acquisitions. The approach can be applied for cooperative networks. The adoption of cooperative strategies requires reconstruction of governance and control approaches. Success in network partnership demands commitment, coordination, trust, the sharing of risks and information and participation and joint problem solving to reduce transaction and production costs. Strategy enables the organization to achieve long-term and sustainable competitive advantage in every business in which they participate. Strategy is both a plan for the future and a pattern from the past, it is the match an organization makes between its internal resources and skills (sometimes collectively called competencies) and the opportunities and risks created by its external environment [Gottschalk 2005; Lee 2004; Neef 2001].

Early definitions of strategic management associated strategy with the plans that were made concerning the whole organization in the longer term. But translating the plan into implementation further down the organization typically followed a predictive path of step by step planning. A dualism or split between thinking (strategizing) and doing (operations) emerged. Strategic management has come to rely upon classifying particular industries or stages of development and generalizing within them, or dividing out generic strategies and defining rules for adhering to these. Not only strategic management thus became separated from the rest of the organization, but divided within itself into separate models or approaches. Pursuing one generic strategy would require the organization to work consistently within that strategy's predetermined boundaries and avoid switching between or mixing with other generic strategies. The creative strategy capability of an organization would lie in its ability to recognize and adapt to unexpected failures and successes rather than their ability to predict them [Bilton, Cummings 2010; Thiadens 2005; Spulber 2007]. According to Mintzberg and Quinn strategies have two main characteristics: they are made in advance of the actions to which they apply, and they are developed consciously and purposefully [1991]. So, in the strategy formulation process, strategists talk about the future, but from the point of view of the present. It makes them unverifiable a priori. A priori managers can only evaluate intended, deliberate or emergent strategy in its emerging process, but realized and unrealized strategies are evaluated a posteriori and this evaluation demands a long period of time. Business strategy includes IT strategy goals formulation, external and internal analysis, and the enterprise engineering.

The historian, Alfred D. Chandler has formulated the thesis that structure follows strategy [1962]. He described strategy as the determination of long-term goals and objectives, the adoption of courses of action and associated allocation of resources required to achieve strategic goals. He defined structure as the design of the organization through which strategy is managed. Changes in an organizational strategy lead to the new organizational structure. Therefore, the strategy management must be followed by enterprise engineering and utilization of feedback for the strategy re-formulation. The business strategy can be identified with a selected way

of creating a fit between external environment, internal resources and capabilities. In this context, ICT strategy is a general plan or a direction of IT application in the enterprise to achieve strategic business goals. Strategy management includes strategy formation, realization and evaluation. Strategy formation should take a substantial and sustained intellectual energy to develop high-quality answers to questions on enterprise's competencies, products, alliances, basic economic activities and roles. Strategy implementation means activities for strategic goals achievement. Strategy evaluation covers measures necessary for feedback and further learning and reformulation of the enterprise's strategy.

Concerning strategy process, researchers tend to follow a notion of feasibility by alleging that thinking (strategy formulation) and action (strategy implementation) are two separable entities. This results in a dominant logic which we call the primacy of thinking. Implementation is perceived to be a derivation of the fully formulated strategy. Scholars stress the goal-oriented nature of strategic management and argue that strategies rely on deliberate decisions [Rasche 2008]. The generic outcomes of a good strategy might be greater orientation, greater animation, and more effective integration. Researchers expect results of strategy implementation, i.e., added value, reduced cost, increased volume and capacity, better market relationships, the redrawing of conventional boundaries and better learning [Kaplan, Norton 1992; White 2004].

For ICT strategists the real question is what business really wants from ICT. In recent years, the concept of federalism in ICT has grown into a generally accepted practice. The idea is to split the supply of ICT service from the demand for that service. The logic is compelling: the drivers behind supply require an obsession with stability, availability, efficiency and cost-effectiveness, whereas the drivers behind demand require a deep understanding of what the business needs, and a determination to meet these business needs effectively. Return on investment becomes critical.

ICT strategy is the discipline that seeks to explain why organizations do what they do, and how they can be changed to achieve a certain demanded purpose. Therefore, the definition of ICT strategy is assumed to be a pattern of important decisions, implemented over time affecting the long term direction and scope for the individual business units in the ever changing competitive environment. The decisions are expected to give the firm an advantage over the competitors in the marketplace by better serving the customers. The business strategy as arising from a pattern of decisions bringing long-lasting results and long-term directional changes was emphasized in the work of Thomson and Baden-Fuller [2010]. Huff et al. [2009] defined strategy as a purposeful attempt to achieve an objective. According to them, the complete picture of strategy needs to include the following:

– what will be done – what products, services and experiences,
– who will do the work,
– how, when and where the work will be done,
– who will be offered the results,
– why customers or clients are expected to value and pay for what they receive.

Therefore a strategy is clearly a communication tool. Widely speaking, the ICT strategy is to communicate a compelling vision of usage of ICT within an organization and within its contacts with the business environment, to coordinate organizational strengths with environmental opportunities, to guide and coordinate supporting activities, to generate more benefits than costs, and to explore new opportunities and respond to new user requirements. The ICT strategic goals can be achieved in different ways. Although it is a problem in the domain of strategy implementation, certain characteristics of the strategy realization processes should be considered. Earl [1996] identified five generic approaches applied by leading firms:

– technology-driven, known as a bottom-up approach, the development of ICT architectures as a foundation for expected application needs,
– method-driven, the use of techniques to identify ICT needs by analyzing business processes and objectives,
– administrative, the establishment of an ICT capital and expense budget to satisfy approved projects,
– business-led, the analysis of business plans to identify how and where ICT can enable the demanded benefits most efficiently,
– organizational approach, the identification of key themes for ICT projects and the organizational learning opportunities through the ICT projects.

The technological approach is based on the assumption of the applicability of formal methods relied on mapping the activities, processes and data-flows of the business. The emphasis is on deriving ICT architecture. Users may react negatively to the complexity of the analysis. The method-driven approach can be comparable to the best method search of the ICT strategy management. The introduction of a formal method rarely provides a remedy, but often a vendor or consultant plays a significant role. They are able to apply the best practices developed and suggested by authorized associations and business organizations. The administrative approach emphasizes the ICT resource planning. The wider management planning and control procedures are expected to achieve the aims of ICT strategy through formal procedures of allocating ICT resources. That method is an acceptance of the “business as usual” approach, ideas for radical change are not revealed and implemented, long-term consideration is absent. However, by emphasizing viability, project approval and resource planning, the administrative approach allows to develop ICT portfolio. The fundamental assumption of business-led approach is that current business direction or plans are the only basis upon which ICT plans can be built and that therefore business planning should drive ICT strategy development. The emphasis on business plans reduces the potential contribution of users and the visibility of local requirements. Information systems functions are poorly integrated into the business as a whole. However, on the other hand, information systems and ICT are seen as critical resources. In organizational approach the organizational learning and special studies are important. ICT strategy development is concentrated on some themes, growing in scope over several years as the organizations begin to appreciate

the potential benefits of ICT implementation. Researchers can use the classification proposed by Earl for the further analysis and testing of the effectiveness of these approaches.

2. Premises of research

Eisenhardt and Zbaracki [1992] identified four dominant perspectives in the strategic decision-making literature: rationality, bounded rationality, power and politics, and the garbage can approach. While the rational approach assumes that actor enters decision situations which objectives determine the value of possible consequences, bounded rationality considers the cognitive limitations of people by stressing that goals are unclear, shift over time and the analysis of alternatives is limited because decisions tend to follow routine procedures instead of systematic analysis. The political approach focuses on the process by which conflict among individuals with competing preferences is settled. Strategic choice is ultimately a political process in the sense that powerful persons get what they want and people use the information to enhance their power. Garbage can decision model is occurring as a result of a random confluence of ever-changing problems, choice opportunities, solutions and people.

The case studies survey was not realized to reveal what perspectives determine the ICT strategy decisions. In all the reviewed cases, there was a question what the organizations want to achieve and what technology could be applied.

Usually the organizations have got their business plans but they do not drive ICT plans. The ICT plans focus on technology rather than directly addressing business strategies, and business managers have problems to recognize ICT as a tool supporting their strategies and they are not able to explain relations among business strategy and ICT strategy, although they know that business and IT planning processes are fully connected and integrated. Therefore in the research the ICT strategy as a goal of technology utilization was considered, and the reviewed company representatives were asked to explain which business activities they would like to follow for the best usage of ICT. In the model presented by Gottschalk [2005] the strategy is determined by business strategy and information strategy. For the further purposes of the research it was assumed that ICT strategy depends on business strategy and information strategy (Figure 1).

Information strategy is defined as a complex of implicit or explicit visions, goals, guidelines or plans with respect to the supply and the demand of formal information in an organization, sanctioned by management, intended to support the objectives of the organization in the long run, while being able to adjust to the environment. In the approach presented in Figure 1 the information strategy is determined by business processes and decisions. The decisions made and the information distributed in the business environment are considered as the most important for the information strategy. Therefore, in the research the company representatives were asked with whom they communicate and what decision-making models they apply.

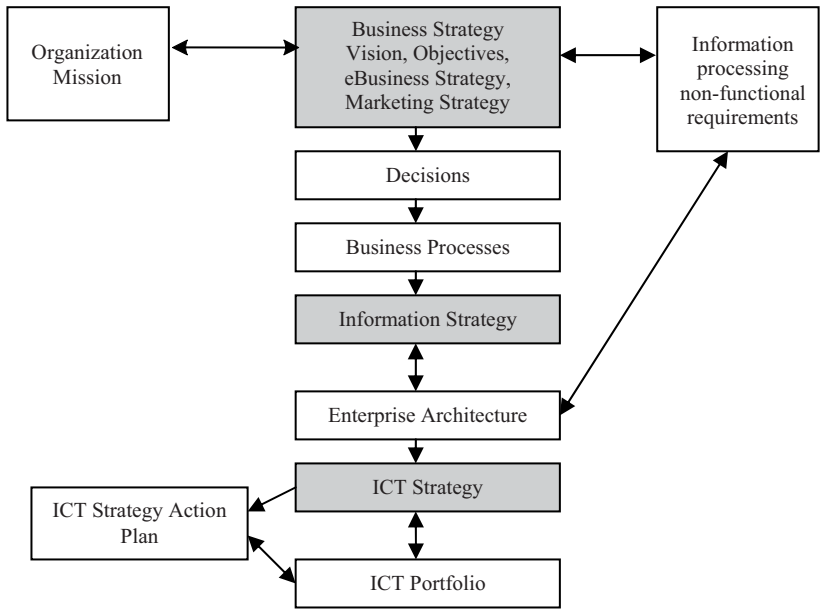

Figure 1. Business Strategy and the ICT Strategy coincidence

For the purpose of this research the direct business architecture creation technique called the POLDAT technique seems to be useful [Phillips 2009]. The data collection framework uses six categories whose first letters spell POLDAT:

– process: each defined business process that provides value from the organization to the client,
– organization: the lines of business, functional departments, management teams, staffing, roles, skills, knowledge and other identifiable operational duties,
– location: the physical location of the business units, offices, and any other entity that has a physical address as part of the enterprise,
– data: the information which the business organization needs to function,
– applications: the software that allows employees to act quickly and efficiently,
– technology: the electronic devices and embedded software to support the operations of the enterprise.

Other practitioners go even further and consider the framework mentioned above as an Enterprise Information Architecture [Callaham et al. 2004]. The enterprise architecture should be the process of translating business vision and strategy into effective enterprise change by creating, communicating and improving the key principles and models that describe the enterprise's future state. Therefore, the enterprise models are applied that are mostly a computational representation of the structure, activities, processes, information, people, their behaviour, goals and constraints of a business, government or other enterprise. The enterprise modelling

can be compared to the selection of the roadmap to pass to the most demanded state, considering the radical or incremental changes. The roadmap is included in projects' plans, because the enterprise engineering and information technology implementation are usually realized by ICT projects. The enterprise architecture models are derived from organizational structure, business processes and decision making models (Figure 1). Assuming that the ICT strategy is visible as a consistent pattern of resource decisions, in this research centralization of decision-making and organization structures are considered. For the business organizations, the centralization of decision-making gives a number of benefits and there are still many instances when the organization will find that the strategic direction of the ICT gives these advantages a significant weighting. Such advantages include greater control over the operation of the ICT resources, providing an efficiency approach to information systems development, reduction of the duplication efforts as well as incompatibilities in information systems, and supporting the cross-departmental systems associated with business process redesigning. However, on the other hand, the drawbacks of centralized ICT resources management result in the separation of ICT functions from the business, increase of back-up costs and lack of appropriate recognition of the end user requirements. Centralization offers advantages of co-ordination, improves the prospects for standardization and integration, helps the monitoring of costs and performance, makes it relatively easy to re-allocate staff and also eases some security problems. It also reduces the chance that one sub-system will be optimized at the expertise of the organizational system (sub-optimization). The improvement in communication technologies makes the physical location of processing power no longer a major issue and across the world data centres are reduced. The distinction between decentralized and devolved ICT resources is the degree of dispersion of control and authority. This is perhaps the structural name for the collected set of activities that include departmental computing and all forms of user self-managed computing. Devolution adds to the technical dispersion inherent in distributed computing but replaces the central ICT control with organization – wide co-operation and co-ordination in order to gain integration.

Decentralization and distributed computing tend to create islands of technology whereas devolution puts the resources where they are business needed and the main driver for devolution has been the need to get ICT resources closer to the business and its customers. The central ICT resources management disappears and is replaced by a utility service that provides the organization-level models such as network facilities, corporate planning systems and support for the process of establishing standards and principles for information management procedures. Some central co-ordination and planning will remain. In this research the questions concerning centralization of decision-making as well as centralization of ICT resources management have been formulated. The effectiveness of the answers is rather low; generally the reviewed business organizations have implemented centralized management models because of their sizes, number of employees, risk aversion and simplicity of decision-making

processes. Other justifications are included below in the next sections. Because of the inability of the a priori evaluation of the enterprise strategy some performance indicators to measure the progress toward the defined strategic objectives are specified. In the strategy implementation process the strategy is translated into:

- strategic objectives that are tangible and measurable to provide the base for monitoring the success or failure of the strategy's implementation as well as to evaluate the progress in the strategy emerging,
- actions and projects through which strategies are achieved,
- key-success factors and performance indicators to monitor the strategy's performance and its efficiency,
- organization policies, which are rules, guidelines and decisions for resolving conflicts among specific objectives.

Business and ICT strategies can be evaluated in the aspect of their internal consistency, ability to be suitable and adaptable to the changing business environment, abilities to ensure competitive advantage or just its feasibility. However, for managers the effectiveness of ICT strategies seems to be important. Generally, the effectiveness of ICT strategy can be evaluated using ex ante and ex post evaluation measures. Predictive evaluations performed to forecast and evaluate the impact of future situations are sometimes referred to as ex ante evaluations. Post-implementation evaluations that assess the value of existing situations are sometimes referred to as ex post evaluations. Ex ante evaluations are normally performed using financial estimates and customers' quantity forecasts. The financial measures are either point estimates of costs and benefits or range estimates of such figures. The ex post evaluations are made on the basis of financial indicators or with using other non-financial measures such as user satisfaction surveys. The ICT strategy evaluation process can also be translated into the project portfolios' evaluation processes, where each of them covers separate sets of quantitative measures of projects results and effects. Portfolio projects are realized simultaneously or sequentially; anyway the provided project measures are useful for the strategy evaluation. Portfolio analysis is a method widely used in strategic management. The method serves to categorize, evaluate, prioritize, cluster and manage control objects such as projects or applications, and create communicable units out of the resulting deliverables. The ICT portfolio creates a framework for recognition of business potential, innovativeness and abilities to utilize the environmental opportunities. In this research the specification of ICT portfolio is one of the fundamental questions included in case studies analysis. Therefore, in results Information Communication Technologies in portfolio are classified according to their value contribution and strategy contribution. In this research the ICT portfolios are collections of resources. The purpose of portfolio management is to reduce the number of low-impact applications. By examining the entire set of lowest-value applications, managers can determine which should be abandoned or replaced. Portfolio information enables managers to prioritize new investments, select the optimal set of ICT resources supporting the business functionalities, set targets for resources in terms of service and quality and in terms of cost and cost reduction.

3. Results

In this survey, to reveal the characteristics of the ICT strategy development the case studies method was applied. In the survey six socio-economic organizations were taken into account, particularly the strategic audit documentation was carefully analyzed and additional interviews were provided. In the group of reviewed organizations three institutions belong to the government sector, the others represent different industry branches. At the beginning of the analysis, the following set of criteria was taken into account:

- organization name,
- sector, branch,
- activities provided and scale of the activities,
- relationships with other business partners,
- centralization of business decision-making,
- main recipients of computer processed information within and outside the business organization,
- centralization of the ICT resources management,
- innovativeness of ICT,
- incremental or radical process of ICT implementation,
- strategic objective of ICT strategy,
- outsourcing or insourcing applied for ICT resources management,
- implementation of commercial and open source software,
- proposed ICT portfolios.

Eventually, the analysis of the final six small and medium business organizations allows notifying that their activities were mostly provided locally, autonomously, within simple or divisional organization structure. The ICT resources were not innovative and mostly provided by outsourcing companies. The details of the analysis are presented below.

3.1. Virtual carrier of packages

Virtual carrier of packages (VCP) is a new private company acting as a SME in transport and communication sector. VCP is planned to act globally and provide track and trace services. It is assumed to act as a broker in the network of package carriers and strongly collaborate with UPC company. The VCP, as an Internet broker, will collaborate with partners in network, i.e., transportation companies, partner carriers and clients. VCP plans to implement centralized decision-making models as well as centralization of ICT resources management. Their ICT strategy seems to be innovative but they are willing to act as followers of mobile virtual network operator as well as followers of Parcel2Go.com Internet carrier. VCP strategic goals are directed towards ensuring of profits and returns of investments. As a small company they prefer ICT outsourcing and application of open source software. Therefore their

ICT portfolio is planned to comprise Internet portal, PHP & Sensio Labs Symfony framework, PostreSQL database, CRM system. They assume integration of virtual carrier software with strategic partner package carrier (i.e., UPS) information system. VCP is interested in utilization of Facebook, Twitter, and YouTube as well as smart phones for advertising.

3.2. Agriculture company

The analyzed agriculture company is a private firm delivering products on a local market. Taken into account number of employees it is a small enterprise, acting on food products market as an autonomous business unit. The firm has established divisional organizational structure, centralized decision-making models. The company provides the fundamental information to their customers, suppliers as well as regional governmental institutions, e.g., tax office, municipal and statistical office. The company is strongly involved in new ICT implementation. However, they prefer centralized model of ICT management, which means less risk for that company. They accepted the ICT follower strategy and Top Farms Wielkopolska English-Irish-Polish Company is the ICT leader for them. They are oriented towards utilization of ICT for profits and returns generation. Particularly they strongly support development of good relationships with the clients, so Customer Relationship Management is a valuable marketing strategy for them. The firm incrementally increases the scope of computerization of business processes and the spectrum of provided services for regional and cross-national clients. To save the cost of ICT the company decided to cooperate with the ICT outsourcer for acquisition and maintenance of information systems and production controlled systems. Definitely, they prefer commercial dedicated software application. So, the company plans to implement ERP integrated management system, special CRM application, decision support systems, crops quality evaluation and forecasting system, farming machines' positioning system and applications to support monitoring of the production processes.

3.3. Learning centre for car drivers

The learning centre belongs to the group of small or micro enterprise class. The centre is a private company that provides training services to the local community. The company employs a few people, i.e. manager, technicians and some trainers, so the decision-making model is centralized, because of simple organizational structure. They rent rooms for trainings and they are conscious of acting in strongly competitive environment. For decision-making they do not need any special applications, mostly they realize selling-purchasing transactions. The firm provides information to local clients and local administration office and tax offices. From time to time they cooperate with local vehicle repair shop just to maintain the car fleet. The driving centre accepts the centralization of information management supervised by the local

IT company. For the Internet communication with the customer they have agreement and Internet services from local Internet service provider. They are interested in ICT strategy development to ensure profits as well as customer satisfaction. Through the ICT implementation the centre would like to increase the volume of provided training services. They will not have implemented any special innovative ICT solutions; rather they prefer to follow any other driving centre in region. The firm plans to implement CRM database system, training simulation systems for drivers, GPS positioning system in cars used by learners, goggles for simulation of driving under influence of alcohol, Internet portal and Content Management System (CMS). The firm believes that implementation of Web 2.0 tools and crowdsourcing will help to ensure a number of clients. The necessary hardware and commercial dedicated software will be bought and monitored by the centre employees. They do not need information system outsourcer, however, the co-operation with Internet service provider seems to be necessary.

3.4. Sanitary-epidemiological inspectorate

The sanitary-epidemiological inspectorate is a local, governmental agency providing sanitary services for the province communities. The inspectorate is responsible for research, analyses and reports on influence of factors harmful to health, as well as for monitoring natural environment and for granting investment permissions to business organizations. All country sanitary-epidemiological inspectorates are integrated and centrally managed and their ICT strategies are also centrally formulated. This administrative approach is not satisfactory to their employees, who in many cases would like to express their information requirements taking into accounts the requests of the clients of these sanitary inspectorates. In this case study the employees of the inspectorate would like to follow the ICT strategy realized by Hamilton Poland Ltd (www.hamilton.com.pl). This company provides for local communities paid services similar to those offered by the inspectorate. Therefore, the strategic goals are planned to cover efficient and effective access to knowledge bases including data on epidemiological situation in monitored areas. The inspectorate is interested in incremental increase of the provided services, ICT outsourcing and sensitive information protection. The employees believe that only special dedicated software will be able to satisfy their information processing demand, so within the ICT portfolio they would like to have data warehouse shared by all other regional sanitary inspectorate stations, data mining tools, knowledge bases covering analysis of harmful substances. They consider EDI and bar codes implementation for efficient identification of test tubes. They would like to have included in knowledge base the EU regulations and norms. They need firewall and security systems.

3.5. Public library

Included in the survey public library is a local government institution which acts as autonomous organization strongly dependent on the financial decision made on local, municipal governance level. The organizational structure of the public library is simple and centralization of decision-making is well developed also in the domain of ICT strategy formulation and ICT resources management. The reviewed public library has the clients (i.e. book readers) within one village, but being the institution with great expectancies, would like to implement new technologies, i.e. Library 2.0 and e-books. The strategic goals include the development of information system for registration books, readers and renting. The public library is interested in the Internet portal to involve readers in the process of preparing the books and other free contents. The librarians hope that COTS (commercial-of-the-shelf) software would be sufficient for transaction processing and they could apply insourcing approach for the information system management. The proposed ICT portfolio is to cover Library 2.0 tools, Internet communication tools, i.e. Skype Instant Messenger, blogs, chat rooms, interface agents, library Podcast as well as e-books renting system and offline renting registration system.

3.6. Municipal office

The municipal office is a well recognized governmental institution. It acts locally as an autonomous unit hierarchically organized and disposing the centralized decision-making models. All the investment decisions must be carefully analysed, so administrative and method-led approaches for ICT strategy management are applied. The ICT resources management is provided internally by the information processing division. The municipal office prefers the ICT resources implementation to support information processing and effective communication with other governmental institutions, tax offices, juridical institutions, citizens, enterprises, non-profit organizations, and associations acting locally. The ICT strategic goals for the municipal office comprise integration of all services provided by municipal office, services for citizens and for business units, provision of Internet communication with citizens and access to information on activities and works realized by the municipal office, opportunities to provide applications for citizens' activities online, online distribution and gathering information from and to citizens, reliability of information systems, security and protection of sensitive information. Therefore, the planned ICT portfolio would include dedicated integrated management system, i.e., ERP for municipal office (the system should particularly support taxes and payments divisions, land and properties, investments and renovations), Citizen Relationship Management (ZRM) system, Geographical Information System (GIS), municipality Internet portal, workflow systems, Executive Information Systems, citizen evidence system, tender management system, finance management system, fixed asset system, education administration, Human Resources (HR) system, and vindication system.

4. Conclusions

The ICT strategy is expected to provide answers to the questions: what are the current technologies and how they could be used in the future, what new technologies could be applied and how they could be implemented. An ICT strategy should be reviewed regularly, often every year and adjusted as necessary. So it should create a robust framework for target-focused planning and management of ICT and for ICT service delivery. The business imperative of strategic flexibility requires the ICT strategy to develop and deliver applications and services that facilitate business responsiveness to customer demands in a rapid and efficient manner, and to provide cost-effective scalable infrastructures and operations that enable cycle time improvement and streamlined, enterprise-wide business processes. The analysis of six case studies allows notifying different approaches to the ICT strategy development in governmental institutions in comparison with private business companies. At first, it should be noticed that the governmental institutions (i.e. municipal office, public library, sanitary inspectorate in that survey) are strongly supported by local, province or central government, and the strategy formulation process is based on the requirements provided by the administrative agencies. The governmental institutions are oriented towards fulfilment of the social requirements, therefore the institutions are not interested in profits and they are not afraid of competitors. The citizen satisfaction is the priority. Information is provided almost for free. It is in the interest of the governmental institutions to have well informed and educated citizens. Therefore, they are involved in the implementation of innovative technologies. Private companies are not acting in such circumstances. They are oriented towards profit and expect that ICT will be helpful to change the market position and overcome competitors.

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ROZWÓJ STRATEGII INFORMATYZACJI

Streszczenie: Wprowadzenie technologii teleinformatycznych przyśpiesza transformację organizacji biznesowej i zmienia metody jej działania. Jednakże zapewnienie informacji i usług informatycznych wymaga analizy i przygotowania planu strategicznego. Mimo że organizacje biznesowe, a także instytucje rządowe formułują strategie biznesowe, ciągle mają trudności z konstruowaniem i wdrażaniem strategii informatyzacji. Dyskusje na temat strategii funkcjonalnych są często podejmowane przez specjalistów strategii biznesu, co powoduje, że praktycy nie mają jednak dobrych wzorców do naśladowania. W opracowaniu przedstawiono teoretyczne podejście dotyczące formułowania strategii informatyzacji oraz analizę 6 przypadków dla wizualizacji praktycznych rozwiązania rozwoju strategii informatyzacji.