MEANING OF INFORMATION MANAGEMENT WITHIN THE COMPANY PROVIDING POSTAL SERVICES

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1. Introduction

In the current economy, the meaning of information as a generative factor is decisive for social and economic development. At present, public information resources, and not natural resources, are most important for the national economy. The market positions of most business enterprises are determined by their access and approach to information, as well as their skill in using it.

Modern information processing technology allows many enterprises to function on two levels: the real and the virtual. By combining them into one strategy, enterprises can come to prevail over the competition and establish technological dominance which allows them the following:

- To communicate quickly (with suppliers and receivers, both internal and external)
- To react quickly in emergency situations; for example, by swiftly and accurately adjusting offers of service to individual customer needs
- To provide higher standards of service (with respect to efficiency and cost-effectiveness) [1]

With this technological edge, businesses can show their customers that they are a well-managed, responsible and forward-thinking enterprise capable of satisfying their customers’ needs in new and improved ways.
2. Essence of information management

Information management (IM) is understood as the sum of various actions aimed towards discovering facts within the context of business functions and providing information to users. The phrase “Information Resource Management” was first used in relation to Anglo-Saxon literature [2]. IM requires the management of information resources, such as getting, protecting, using, disseminating and promoting information.

The main areas in IM are:

- Information strategy
- Information preparation
- Potential of information to meet management needs
- Technical aspects of information systems

IM strategies directly involve the managers' work and related needs, and increase responsiveness to information demands. The IM strategy also gives a foundation for the creation of teleinformation strategies, including computer systems, the buying of equipment and software, and the modernization of infrastructure. The need for strategic thinking about information arises from the following facts:

- Information in the business' domain must be organized
- Information sources can always be allocated effectively
- An information strategy makes it easier to adapt to new situations
- Information strategies help create and use information [3]

The creation of an information strategy helps process information to develop a knowledge base and to use information effectively in practice. An information strategy entails the creation of an information culture which maintains a high standard of resources and cultivates various abilities, including the ability to work together in groups, the ability to communicate, the ability to use computer resources, the ability to apply information in decision-making processes, and, of course, the ability to learn and integrate information from disparate disciplines and domains.

The strategic benefits obtained from IM vary depending on how the information is going to be used. Such benefits may include the following:

- Direct benefits, according to individual needs for additional information
- Immediate or long-term benefits, as a result of using resources
- Material and immaterial benefits, as a result of having and using information
- Benefits from issuing information; e.g., public campaigning and providing disinformation to competitors
From an economic point of view, in business it is necessary to optimize costs and maximize inequality between profits and costs. In this context, a very important problem is the calculation of IM costs before the utilization of resources to research its impact. The following components may be considered in such calculations:

- Resources collected in the information system
- Human resources involved in the information system
- Technological elements, including both software and hardware

Because information is immaterial, it is difficult to quantify its effects. The most common method of measurement in the literature is ex post. In this method, the effects of using information are measured, or, if there are no effects, then analogous results are evaluated.

To properly plan, execute, and utilize information systems and processes, it is necessary to know the cost of information. The cost analysis with respect to information systems can be broken down as follows:

- The cost of generating, gathering, processing, spreading, disclosing, interpreting and using information
- The cost of maintaining and updating system standards
- The cost of maintaining the system’s technical infrastructure
- The cost of maintaining personnel
- The cost of maintaining and conserving the system’s information resources

IM uses modern methods of gathering and processing data, and developing communication systems. Computer technology makes operations quicker, thus saving time, and, combined with information resources, knowledge and experience, creates new value added. Technology allow businesses to reduce the cost of lost opportunities which could arise from the waste of resources. Importantly, hidden costs may be reduced by more effectively accomplishing tasks and employing new communications methods.

The use of new information technologies is increasing the rate at which information is circulated within and through business management systems. It allows businesses to get the information they need to make important decisions, and also to analyze that information on different levels.

Information management systems can support and be utilized by every level of business management. Among the types of IM systems, there are:

- Systems to inform executives, which guaranty the availability of precise and current information, so that successful plans can be made, controlled and executed
- Systems to support decision-making processes, based on computer programs for information and analysis in situations in which it is necessary to combine experience with computer simulations
• Expert systems, based on known facts and feedback; the main benefit of such systems is that they enable inferences when there is not enough data to solve a given problem

• Document management systems, the basic function of which is the electronic storage, archiving, and sharing of documents

• Systems to support teamwork, which allow work to be organized for many users interacting via a telecomputing network; these systems are based on the supposition that computer networks help increase effectiveness, thanks to cooperation and shared data resources

• Corporation portals, which are the origin of up-to-date information and the platform for communication in the area of business resources available through internet browsers

• Systems for the automation of business processes, where sub-processes can be automatically allocated, sent, updated, managed and monitored

• Data warehouse systems, with bases of available data for long periods of time and multi-dimensional analytical configurations allowing highly efficient search capabilities

• Communication support tools, such as email, telecomputing, and the Internet, including discussion forums and chat rooms

Serviced-based businesses require that information systems and modern technologies do the following:

• Provide complex and current information

• Ensure selective and effective usage of information, and proper communication within the business hierarchy

• Be user friendly and provide constant, automatic methods of acquiring information from stable sources

• Make data available immediately for every level of operations, including even the lowest level of the business hierarchy, to search for and integrate information from different sources and present data, along with the relevant results, in specialized reports

• Provide feedback

In business management, information systems cannot be treated only as origins of information and ways of using new technology to reach targets, but also as an area which requires active management and cultivation in the following ways:

• Long-term planning with consideration of the development of information systems with strategic solutions, and short-term planning to smoothly incorporate modern methodologies and communication solutions
• Organizing, which provides a combination of measurements and actions with various performance criteria, including efficiency, taken into consideration

• Constantly and periodically checking coordination of the information system with target function and duties

• Activating personnel to work according to organization targets

As the role of information is growing in determining businesses’ market positions, the issue of security for information resources is becoming more and more relevant. As mentioned earlier, information resources are stored in information systems more often and made available to more people and institutions, which is why data is exposed to modifications and even loss. A high quantity of data makes enterprises dependent on technology, computer networks, and diffuse processes.

The implementation of new computer technology in data processing increases the possibility of introducing defects into an information system (including equipment as well as software). This is a danger for stored resources, and current protections may not be sufficient to secure new techniques for accessing data. The following potential effects must be considered:

• Material waste - information may be involuntarily made available to competitors

• Costs of liability

• Chaos within the organization

• Incompatibility and contradictions within data, as a consequence of inconsistent functionality

• Poor decisions

As enterprises become increasingly dependent on higher quantities and standards of quality of information, so does the level of required protection of information systems and gathering of data increase. The most basic protection is connected to the accomplishment of the following parameters:

• Confidentiality of information - making information available only for authorized personnel

• Integrity of information – protection from the modification or deformation of information resources by unauthorized personnel

The protection of an information system must incorporate all operations connected with defining, reaching, and maintaining the necessary protection parameters. The level of protection required depends on the character of information to be protected. While
some information must be protected because of enterprises specific needs, some must be protected because of legal demands.¹

The protection of information resources in an enterprise should be an ongoing and dynamic process, requiring constant control and adaptability to changing environmental conditions. In service-based enterprises, information protection is multi-faceted, and involves the following:

- The point and purpose of the information
- Personnel using the information systems
- Systems where information is produced, processed and stored
- Environment in which systems are working; for example, the workplace, wiring systems, and power supplies

There are new dangers and challenges connected to technological development, and they require the constant monitoring and updating of information protection systems. Information safety in teleinformation systems has both national and international rules and regulations. These regulations define not only concrete, technological solutions, but also organizational requirements and appropriate ways of behaving within the enterprise. In addition to these standards, there are many recommendations for how to protect telecomputing systems and documents connected with their safety which indirectly touch on problems with information safety management.

Information safety management in service-based enterprises includes the following:

- Precise targets, strategies, and safety policies for information systems
- Identification and analysis of risks to information resources
- Identification and analysis of other risks
- Description of adequate protection measures
- Monitoring of the implementation and exploitation of safety precautions
- Creating awareness training programs
- Detecting and reacting to incidents in which safety is compromised.

To properly implement a safety management system in a business enterprise, precise IM procedures must be described and individual responsibilities must be clearly delineated. Service-based enterprises which use teleinformation techniques usually have a contingency plan in case of emergencies. For example, in case there is a complete or partial loss of information system functionality, including the loss of a back-up plan to

¹ The legal requirements in Poland are based on the Personal Data Protection Act, the Database Protection Act, and the Electric Signature Act.
recreate information in unpredictable circumstances, then enterprises should have a ready recovery scenario.

To effectively protect information resources within an organization, it is necessary to have a long-term policy to optimize the gathering of information. Service-based enterprises should therefore know their information needs very well. It should be noted what information is accessible, and what is in short supply. Public resources should not have meta-information, useless information, or information which is not rich in meaning, because these make it difficult to use information and increase the cost of operations. Enterprises should gather information with the following qualities [4]:

- Effectiveness - the ability to engender the desired results
- Precision - providing a reliable representation of facts
- Decisiveness - the ability to facilitate decision-making processes
- Verifiability - the possibility to check, update, and elaborate upon information
- Usefulness, or adequacy - the ability to be helpful
- Understandability and accessibility
- The ability to be transformed and reproduced in different media (verbal and written).

The improvement of information safety is in the interest of all businesses and their customers. The fundamental and necessary steps to improve information safety in the serviced-based businesses should primarily include the improving control and supervision to better locate and analyze the organization’s weak points and determine who is to be held accountable.

3. The Polish Post Office – information safety

The activity of the postal public operator makes up the most important part of the postal sector in Poland – almost 98 % [5] mails in the postal market are operated just by The Polish Post Office. Describing this entity it should be emphasized its essence of the statute of public utility, characteristic of state enterprises created for current and continuous satisfying of people’s needs which are particularly important as regards the protection of social bonds.

The Polish Post Office annually processes and initiates billion of information regarding personal details, material documentations, financial settlements and completions of contracts and services. Being the state institution The Polish Post Office is also obliged to archive data and to make it available in the forms described by law and regulations. Information is, thereby, treated to a large extent as the key factor which makes it easier for the management to react to all changes occurring in the dynamic environment.
Ensuring information safety\textsuperscript{2} by the public postal operator means that it is protected against many different dangers in such a way to fulfil legal requirements connected with it, to ensure continuity of doing business, minimize loses, maximize the return of expenditures on investments and business ventures.

In the Polish Post Office, the protection of information against its revealing has been based on the following principles:

- The creation of security policy, that is the set of rules concerning information safety coming down to ensure: trust, integrity and availability
- Physical protections both in terms of burglary as well as unentitled access
- Using security procedures in the form of instruction proceedings, authorization (making sure that people guarantee to keep secrets), documentation and legal norms
- Security practices, that is promoting the best, verified in practice solutions in the field of implementing information safety
- Prevention – through creating organizational structures within an enterprise, which deal with the analysis of risk and evaluation where the possibilities of committing postal crimes are (following other postal public operators, The Polish Post Office employs postal detectives)
- Protecting teleinformatics systems through appropriate software functions

4. The analysis of the information security level in The Polish Post Office

In order to improve information safety in the Polish Post Office in the year 2005 the safety Management Centre was created, whose main tasks include:

- The consolidation of safety management processes
- Creation of homogeneous structure responsible for determining safety standards and supervision of its implementing and realization
- Directing safety processes into the realization of the functioning of the Post Office units and postal infrastructure
- The operational research of the way of tasks realization through the safety management department for the sake of other units
- Meeting the requirements by The Polish Post Office as the public operator.

The requirements concerning safety in the Polish Post Office relate both to internal information (generated by the company itself), as well as to information entrusted

\textsuperscript{2} Safety is usually described as the state of lack of danger and the ability to avoid damage resulting from risk and danger.

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by customers. Systematic checks carried out by internal and outside units\(^3\) indicate that with reference to the self-generated information protection generally the company fulfils the legally binding regulations. However, it should be stressed that with regard to technology, the office and archive procedures require being modernized, because now The Polish Post Office keeps archives mostly in paper form.

The second area of information safety, often described as postal turnover safety, concerns keeping trust of information given by customers (including keeping correspondence secret) and maximum reduction of exposing customers to danger of physical damage.

In international dimension the issue of the postal turnover safety has been mentioned in the European Parliament and the European Council directive [6]. It has been stressed that reliable postal services should be striven for, and membership countries have been obliged to draw up precise, simple and cheap procedures of investigating complaints, particularly in cases of loses, thefts, damaging or failing to meet conformity with postal norms.

The results of the checks indicate that in order to improve the condition of the postal turnover safety the following should be done:

- To introduce the effective system of selecting workers who can be entrusted with people’s belongings
- To improve the protection of buildings
- To make changes in the field of postal law and decrees concerning specification of information safety issues, particularly including ordinary mails into complaint procedures and tightening the operator’s financial responsibility amounting to the real damage a customer suffered
- To introduce the system of effective following of registered mails\(^4\) promptly.


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\(^3\) Based on data given by Polish Post services regarding internal and outside results of information safety check in an enterprise.

\(^4\) Customers of The Polish Post Office are offered the possibility of receiving information about mail delivery calling 0-804-104-104. However, this line relies on data register system about EMS – POCZTEX mails, which does not ensure getting information about mails in real time.
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Resumé

VÝZNAM INFORMOVANOSTI U SPOLEČNOSTI PROVÁDĚJÍCÍ POŠTOVNÍ SLUŽBY

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Zlepšení informací o bezpečnosti je v zájmu polského poštovního úřadu a je slučitelné s potřebami jeho zákazníků a předpisy na poštovního trhu. Kladné trendy na poli zdokonalení bezpečnosti budou jistě ovlivňovat spolehlivost ve veřejném miníní. Hlavní a velmi důležité aktivity spojené se zlepšením informací o bezpečnosti v polském poštovním státním sektoru by měly zahrnovat následující:

• Zlepšení dohližecí funkce zaměřené na zlepšení analýzy záporných projevů zvláště u sektorů lokalizace místa, kde se mohou vyskytnout nepravidelností, výběru vhodných pracovníků, právě tak jako běžného monitorování a odhadu indexu poštovního obratu.

• Specializované pracovníky a zlepšení jejich motivace.

• Investice do bezpečnostních teleinformatických technologií.

Pro dosažení prvních dvou cílů je zapotřebí státní podpora k umožnění profesionalizace managementu Polské státní pošty. Pokud se jedná o technologické investice, pro státní finance je rozhodující zajistit efektivní státní podporu.
The improvement of information safety is in the interest of The Polish Post Office and is compatible with its customers’ needs and postal market regulator. Positive trends in the field of safety improvement will definitely influence its reliability in public opinion. The main and crucial activities connected with the improvement of information safety in postal public sector in Poland should include the following:

- Improving supervising function aimed at the improvement of the analysis of negative symptoms in particular sectors in order to locate places where irregularities can occur, appropriate workers’ selection, as well as current monitoring and forecasting the postal turnover safety index
- Specialist workers’ training and the improvement of workers’ motivation
- Investments in safety-related teleinformatics technology

To accomplish the first two aims the support from the state is needed to make the professionalization of The Polish Post Office management possible. As regards to the technological investments it is crucial for the State Treasury to ensure effective financial support.

Zusammenfassung

Die Verbesserung der Sicherheit ist in dem Interesse des polnischen Postamts und ist im Einklang mit den Bedürfnissen der Kunden und dem Regulator der Postmarkt. Die positiven Trends werden im Bereich der Verbesserung der Sicherheit die Verlässigkeit beeinflussen. Die hauptsächlichen und schließlichen Aktivitäten, die mit der Verbesserung der Sicherheit der Informationen in dem öffentlichen Postsektor verbunden sind, sollen folgende beeinflussen:

- die Analyse der negativen Symptomen in den Teilsektoren verbessern, mit dem Ziel die Plätze lokalisieren, wo die Unregelmäßigkeiten zeigen können, der Auswahl der geeigneten Beschäftigten und die gegenwärtige Überwachung und die Vorhersage der Postsicherheit
- die Schulung der spezialisiertem Beschäftigten und die Verbesserung ihrer Motivation
- die Investitionen in die teleinformativen Technologien, die mit der Sicherheit verbunden sind

Zu der Verbesserung der ersten zwei Ziele bedarf es die mögliche Professionalität des Managements der polnischen Post. Im Bezug auf die Investitionen in die Technologie ist die effektive Finanzförderung des Staats verkeimfähig.