Mario Šercer, mag. oec.

J. J. Strossmayer University of Osijek Faculty of Economics Gajev trg 7, 31000 Osijek, Croatia Phone: 091/1656066 E-mail address:bioplam@gmail.com

Zlatica Kavić, mag. oec. J. J. Strossmayer University of Osijek Faculty of Economics Gajev trg 7, 31000 Osijek, Croatia Phone number: 098/268842 E-mail address: zlatica.kavic@gmail.com

THE SOURCES OF BUSINESS INFORMATION'S IN METAL INDUSTRY

IZVORI POSLOVNIH INFORMACIJA U METALSKOJ INDUSTRIJI

ABSTRACT

Modern business dynamics to all the participants that are involved in business process poses a daily challenge: decision-making of an entire character of the matter, often several times during the day. In a number of cases, some decisions must be made as soon as possible, and the information's available for making the right decisions are not always sufficient. To the applicants, as available information's often stands various different sources from which it is possible, on many different ways to collect the needed information. An important role when making business decisions also have the conditions during which the sources of information's are selected and make business decisions. Important criteria for the selection of sources of information's and assessment of their quality are different, but they all have one common goal - to provide useful and timely information. In the modern business, computer and Internet usage, both in communication and as an inexhaustible source of all kinds of information becomes inevitable. Computerization and spreading of Internet greatly facilitates, but also accelerate business processes in general. Today it is one of the fastest. more convenient and simpler ways of collecting the necessary information's using the network interface, the Internet. The Internet has become accessible to even greater number consumers, both for the personal and business needs, and Internet access is mostly available to all the employees, regardless of the hierarchy. In order to verify the application of theoretical basis in practice, research was carried out in a number of major metal companies on the territory of Medimurje County. In the theoretical part of the paper are briefly presented the (theoretical) framework of business decision - making, and the final aim of the research that is presented in this paper is to examine what are the sources of information's on the different control levels when commonly used in the search for business information's, and to establish the place of the Internet as one of the newer source of information's. In addition, it will be explored which are the characteristics of the information's sources that are most important to the seekers.

Keywords: management, information's sources, business decision-making, decision, metal industry

SAŽETAK

Dinamika suvremenog poslovanja svim sudionicima uključenima u poslovni proces svakodnevno stvara izazov: donošenje odluka svekolikog karaktera, nerijetko i po više puta dnevno. U velikom broju slučajeva neke odluke treba donijeti u što kraćem roku, a informacije raspoložive za donošenje ispravne odluke nisu uvijek dostatne. Tražiteljima informacija na raspolaganju često puta stoji više različitih izvora s kojih je na mnogo različitih načina moguće prikupiti potrebne informacije. Bitnu ulogu u donošenju poslovnih odluka imaju i uvjeti u kojima se biraju izvori informacija i donose poslovne odluke. Kriteriji za odabir izvora informacija i procjenu njihove kvalitete različiti su no svi oni imaju jedan zajednički cilj-osigurati upotrebljive i pravovremene informacije. U suvremenom poslovanju uporaba računala i interneta, kako u komunikaciji tako i kao neiscrpan izvor svih vrsta informacija postaje nezaobilazno. Informatizacija i internetizacija u velikoj mjeri olakšavaju. ali i ubrzavaju poslovne procese kao poslovanje općenito. Danas je jedan od bržih, praktičnijih i jednostavnijih načina prikupljanja potrebnih informacija korištenje mrežnog sučelja, tj. interneta. Internet postaje dostupan sve većem broju korisnika, kako privatno tako i poslovno, a pristup internetu dostupan je u najvećoj mjeri svim zaposlenicima, neovisno o hijerarhiji. Kako bi se provjerila primjena teorijskih osnova u praksi, provedena su istraživanja u nekoliko značajnijih metalskih poduzeća na području Međimurske županije. U teoretskom dijelu rada ukratko su predstavljeni teorijski okviri poslovnog odlučivanja, a cilj provedenog istraživanja koje je predstavljeno kroz ovaj rad jest istražiti koji se izvori informacija na različitim upravljačkim razinama najčešće koriste u traženju poslovnih informacija te mjesto interneta kao jednog od novijih izvora informacija. Osim toga bit će istraženo koja su obilježja izvora informacija tražiteljima najvažnija.

Ključne riječi: menadžment, izvori informacija, poslovno odlučivanje, odluka, metalska industrija

1. Introduction

Everyday business life requires decision-making of the versatile character, often several times during the day. In order to get the right decision it is necessary to have the appropriate information which can be combined in many different ways. In private life, decisions are mainly based on intuition and such decisions include only a small number of persons, while in the business during the decision-making one cannot rely solely on intuition, because the decision, depending on the level at which were made, include a smaller or larger number of employed people. What is the level of the decision-making more complex and requires more knowledge (information's) as far as it concerns the larger number of members of the organization, so in accordance to Sikavica, wrong decision may have harmful consequences for the entire organization (Sikavica, 1999, 10) There is not a single position where the decisions have not been made, and the difference between the positions are reflected in the importance and meaning of the decisions that was made. In order to make the right decision, it is necessary to provide oneself with the adequate information's. Procedure of supplying information's is a process to be carried out several times during the decision-making process, and the decision on the monitoring of information's depends on how they are difficult to obtain, and also on the degree of knowing of their sources (Goodhue, 1998, 109). To obtain information's is not an easy task. There are many different sources of information's, such as your own top management, users of the product, sales representatives, catalogue offers, sales literature, including sales magazines and others (Bunn, 1993, 53). The modern business implies the use of computers and the Internet, both in communication and as an inexhaustible source of all kinds of information's. The fact is that the Internet is becoming available to an increasing number of users, both for personal usage and also professionally, and ceases to be available to only small elite of scientists and business corporations (Savolainen, 1999, 766). Internet access is mostly available to all the employees, regardless of the hierarchy. Internet is offered as a source of information's to the engineers employed in the design process, while in the process engineering and production is ranked fourth (Kwasitsu, 2003, 470) This account is consistent with the statement according to which the World Wide Web, whose popularity is growing explosively since the beginning of the nineties, has a great potential as a new medium for data collection and various information's (Stanton, 1998, 709) Following the development of the Internet as a new medium, it was observed that during the last ten years, an ever increasing number of companies just over the Internet makes available information's about their products and services (Yang, 2005, 575)

2. Business decision making

Decision making is the process of assessing the available possibilities and, as a result, the choice between alternatives that the decision making marks as the most important part of the managerial work. On the other hand, decision-making is defined as a selection of a direction and mode of actions among several alternatives. It can be defined as the process of problem solving and provides actual answers to questions related to the place, time, manner of decision making and decision makers. If the decision is considered as a process, then the decisions are the results of the decision making process. The decision represents a choice between one or more choices, and making such choice to be more optimal. A good decision, as a result of decision-making has the following characteristics: it must be unambiguous, precise, clear and achievable and above all, timely (Peter and Babogredac, 2013, 17) The importance of making a decision is supported by the statement that such decision should confirmed an irreversible allocation of resources (Parnell et al., 2011, 275) Yates (2012) defined decision as a commitment to action that will bring a satisfactory state of affairs for a particular party, i.e. the user who has commenced such action. From this definition, it follows that the decision reflects the intent of a particular action (Yates, 2012, 25) In the companies are basically makes the two kinds of decisions: major strategic decisions, made by a small number of the most important leaders, and a number of small decisions that daily bring all its employees. A good decision is every decision made that facilitates faster approach to the previously set of goals, and also a good decision is the one that is made on time (Liautaud and Hammond, 2006, 88). Most nonprogrammed decisions are made by the managers and experts with the greater knowledge and experience. Unprogrammed decisions are more important than programmed and probably have a greater impact on the performance of the organization. Managers tend to delegate programmed decisions to their subordinates thereby gaining more time to make a heavier, non-programmed decisions (Gomez-Mejia, Balkin, Cardy, 2008: 227). Studies made by Pilepić and Šimunić (2010) has shown that when the strategic decisions took place, 77% (of total respondents) of managers from the top management were involved, 66% of managers of middle management and none managers from the lowest level of management. When making tactical decisions, 100% (of total respondents) of the top managers were involved, 97% of managers of middle management and 50% of managers of the lowest level of management were included. For the implementation of operational decisions, 44% (of total respondents) managers from the top management, 44% of managers of middle management and 100% of managers from the lowest level of management were included. Programmed decisions are made by 119 of a total

of 124 (96%) surveyed managers at all levels of management, while 85% of them are forced to make non - programmed decisions. In total, 90% of managers made their decisions individually, and 88% of them participate in a group decision (Pilepić and Šimunić, 2010: 419).

3. Research

The survey was conducted in April and May 2014. Data were collected through a structured questionnaire. The study included nine businesses located in the Medimurje County, and the criterion required for the participation in the study, except for the metal industry was the number of employees. Thus, in this study were included some of the most important metalworker companies that have employed more than employees. In every company that was included in the survey, the assistants were determined, who were helping researchers in a way that they took the questionnaires from them and in accordance to their instructions distributed to responders, after which they have collected and returned them. Respondents to the questionnaires had four weeks available. In every company that even after the deadline has not returned the questionnaires, contact with the assistants was established, and the deadline for the submission of completed questionnaires was extended for an additional two weeks, after which the questionnaires have been collected and returned. Overall, 99 questionnaires were handed over, of which 36 to the respondents from a higher hierarchical levels and to 63 respondents from the lower hierarchical levels. The total number of the returned questionnaires was 81. Before data processing has started, the three questionnaires were excluded due to incompleteness, 78 of the were valid: of which 26 (72,2%) guestionnaires from the respondents were from the higher hierarchical levels and 52 (88.9%) questionnaires were from respondents from the lower hierarchical levels. The overall effective response rate was 78,8%.

3.1. Sample description

The subjects were divided into two hierarchical levels: higher and lower. In a higher hierarchical level were included the most senior officials such as the main managers and directors as well as their deputies, technical directors and directors for the procurement and sales, but engineers, technicians and economists responsible for performing daily tasks at the operational level were located in a lower hierarchical level. From a total of 78 subjects, 26 of them belonged to a higher hierarchical level (33,3%) The lower hierarchical levels enrolled 52 subjects (66,7%)

As it has been seen from the age criteria, the average age of employees on a higher hierarchical levels was 43,9 years. The youngest participant at the time of testing was 28 years old and the oldest one 67. At the time of testing, 69,2% of the respondents had 42 years of age or less. The employees average age from the lower hierarchical levels was 36,2 years. In this group of participants, the youngest one, at the time of testing was 24 years, and the oldest was 59. At the time of testing, 75% of respondents had 41 years of age or less.

Summary about the information's on the age structure of the respondents is shown in Table 1.

The average age of all 78 subjects in total amounted to 38,7 years.

Hierarchical level	N	Min.	Max.	Mean	Std. Deviation
Higher level	26	28	67	43,92	11,70
Lower level	52	24	59	36,15	8,89

 Table 1 The age structure of the respondents

Source: Mario Šercer, own work.

As for the qualifications, all respondents have at least completed vocational or the secondary school. Most of the respondents have completed higher or the University education: 20 respondents from the higher hierarchical levels or 76,9% of respondents, and 27 from the lower hierarchical levels, or 51,9% of them.

Among other things, the respondents were answered on questions related to the use of computers and the Internet, and the following data were obtained: -46,2% of respondents from the higher hierarchical levels used a computer for at least 15 years, and this percentage is almost the same with the members from the lower hierarchical levels that amounts to 44,2%.

- 23,1% of respondents from the higher hierarchical levels have been using the Internet for 15 years or more, while at the same level for the business purposes 38,5% of respondents use the Internet for an hour or less.

In similar vein to a higher level, in the lower level, the Internet have been used by 25,4% of respondents for 15 years or more, while for the business purposes, up to one hour of Internet uses 46,2% of respondents.

3.2. The questionnaire

The questionnaire was designed to gather and process the information's relating to the sources of information that respondents the most commonly used in their daily work and to obtain information's about the characteristics of such information that are the most important to them. When developing the questionnaire, as the basis have served in the previous research used and tested measuring instruments (Allen and Gerstberger, 1967 and Kwasitsu, 2003) which have been expanded and adapted to the needs and research duration. Respondents of both hierarchical levels filled in the identical questionnaires, and using the Likert scale with five points, it was necessary to evaluate the importance of each of eighteen offered sources of information's. Also, for every of the eighteen sources of the information's, respondents should evaluate the following characteristics: accessibility, ease of usage, the quality of the obtained information's, experience when using the sources of information's and their reliability.

3.2. Analysis and Results

With the factor analysis of the original 18 items of the measuring instrument were divided into four factors which explained a total of 62,06% of the variance; five items have been excluded. The first factor, i.e. the internal sources explains 31,54% of the variance and included the following items: research within the company, people in the business environment within the company, group discussions, experiments and tests and technical staff. The second factor (advisory external sources and the Internet) consists of four items: an advisory external sources with surcharge, sources on the Internet for a fee, free advisory external sources and free resources on the Internet, which explains 12,24% of the variance. The third factor (suppliers and customers) consists of the three items: suppliers, potential suppliers and customers, and they explained 9,37% of the variance, while the fourth factor, i.e. the printed literature, which includes books and technical journals explains 8,91% of the variance. Each factor had an acceptable level of reliability, and Cronbach alpha was 0,802 for the first factor, 0,776 for the second, 0,758 for third and 0,751 for the fourth factor.

3.2.1 Analysis of the importance feedback from the sources of business information's

The study results have showed that the preferences of the use of certain sources of information's do not differ with respect to the hierarchical level, and therefore at a higher and a lower level in the course of the collection of information's are most commonly used internal sources. In the second place are placed the suppliers and customers, as a sources of information's which during the information gathering are used more often, even from the printed literature and from the Internet. Affiliations towards different sources of information's at different hierarchical levels are shown in Table 2.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher level	Internal sources	4,18	0,70
	Suppliers and customers	3,96	0,69
	Printed literature	3,46	0,68
	Advisory external sources and the Internet	3,39	0,64
Lower level	Internal sources	4,07	0,59
	Suppliers and customers	3,76	0,71
	Printed literature	3,66	0,99
	Advisory external sources and the Internet	3,36	0,80

Table 2 The use of sources of information, depending on the hierarchical level.

Source: Mario Šercer, own work.

3.2.2. Sources of the business information's characteristics analysis

For each offered source of business information's, it was necessary to evaluate the following characteristics: accessibility, ease of usage, the quality of the obtained information, experience in the use of the sources of information's and reliability.

With the data analysis, following results were obtained: at all the hierarchical levels, the sources that originated from the suppliers and customers are considered the most accessible source of information's, while to the members of the higher hierarchical levels are at least accessible printed literature, while to the members of the lower hierarchical levels those are external advisory sources and the Internet. The schedule of the information according to their accessibility is shown in Table 3.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher level	Suppliers and customers	3,81	0,68
	Internal sources	3,81	0,94
	Advisory external sources and the Internet	3,55	0,80
	Printed literature	3,35	0,73
Lower level	Suppliers and customers	3,76	0,80
	Internal sources	3,72	0,72
	Printed literature	3,63	0,87
	Advisory external sources and the Internet	3,41	0,75

Table 3 Accessibility to the sources of information's.

Source: Mario Šercer, own work.

Suppliers and customers are the source of information's that top managers mostly use with ease in searching for business information's, while printed literature is the source that they use rarely, what is in a clear opposition to respondents from the lower hierarchical levels, where the printed literature is the source of information's which is easiest to use, while they hardest use the advisory outside sources and the Internet. Sources of information's in accordance to the ease of their use are presented in Table 4.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher level	Suppliers and customers	3,95	0,75
	Internal sources	3,73	0,80
	Advisory external sources and the Internet	3,71	0,67
	Printed literature	3,54	0,76
Lower level	Printed literature	3,86	0,82
	Internal sources	3,78	0,65
	Suppliers and customers	3,72	0,77
	Advisory external sources and the Internet	3,51	0,71

 Table 4 The ease of information's sources usage

Source: Mario Šercer, own work.

The respondents from the higher hierarchical levels, with regards to the quality of business information's, give the highest priority to the internal sources while information's obtained from consulting external sources and from the Internet are considered the non – quality information's, in which they coincide with the respondents from the lower hierarchical levels. Furthermore, members from the lower hierarchical levels not only, as it was mentioned earlier, as a source of information's the printed literature use on the easiest way, but such source is considered to be of the highest quality, as it is shown in Table 5.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher levels	Internal sources	3,93	0,70
	Printed literature	3,90	0,68
	Suppliers and customers	3,87	0,65
	Advisory external sources and the Internet	3,46	0,67
Lower levels	Printed literature	4,06	0,75
	Internal sources	3,95	0,63
	Suppliers and customers	3,72	0,81
	Advisory external sources and the Internet	3,57	0,68

Table 5 The quality of sources of information's

Source: Mario Šercer, own work.

Apart from the fact that to them are the most affordable and easiest to use as a source of information's, the most experience of all the available sources have the members of the higher hierarchical levels with the suppliers and the customers. Unlike them, members of the lower hierarchical levels are the most experienced when using the internal sources of information's. Advisory external sources and Internet have begun relatively intense to use

only during the later years which is indirectly confirmed by the fact that all of the respondents have the least experience when using such sources, what has been set forth in the Table 6.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher level	Suppliers and customers	4,01	0,86
	Internal sources	3,91	0,81
	Printed literature	3,79	0,76
	Advisory external sources and the Internet	3,55	0,79
Lower level	Internal sources	3,78	0,60
	Printed literature	3,65	0,78
	Suppliers and customers	3,39	0,86
	Advisory external sources and the Internet	3,22	0,80

Table 6 Experience when using the sources of information's

Source: Mario Šercer, own work.

Reliability of sources of information's is the only characteristic in which coincide respondents replies at the both hierarchical levels that they considered the printed literature as the most reliable source of information's. Second place when ranking the reliability took the internal sources, followed by suppliers and customers, while advisory external sources and the Internet data are considered the least reliable source for the proper business information's, which is evident from the data shown in Table 7.

Hierarchical level	Sources of information's	Mean	Std. Deviation
Higher level	Printed literature	3,98	0,66
	Internal sources	3,90	0,66
	Suppliers and customers	3,72	0,84
	Advisory external sources and the Internet	3,43	0,71
Lower level	Printed literature	4,04	0,71
	Internal sources	3,95	0,63
	Suppliers and customers	3,51	0,77
	Advisory external sources and the Internet	3,42	0,73

Table 7 Reliability of the sources of information's

Source: Mario Šercer, own work.

4. Discussion

During the gathering of the business information's, top managers as well as operational management give the equal importance to all of the available resources. Information's are usually drawn from internal sources such as researches within the company, from the people in the business environment within the company, during the group discussions, experiments and tests and from the technical staff. To the information's that were gathered from internal sources are more trusted than for those that come from external sources: internal sources are relatively easy accessible and they are easy to use, and all the employees during their work so far had the opportunity to meet with them. We have hereby confirmed the findings obtained during an earlier research. Hertzum and Pejtersen (2000) have showed that working

colleagues to the expert engineers represent the primary source of information's, and the underlying cause of this fact is their accessibility. To the same conclusions reached Kwasitsu (2003), who in his work as the main source of information's has shown the people in their own work unit. Suppliers and customers are considered to be an important source of information's, whose information's contains all the essential features that are also a prerequisite for their use: they are affordable, all the customers have already had the experience of working with them, and they provide a relatively high-quality and reliable information's. Rosenberg had found already back in 1967 that at least used sources of information outside the business organisations, is the one that requires correspondence by letter or by contacting persons by the seekers of information who are more than ten kilometres away. And even nowadays, advisory external sources (regardless of whether these services are free or need to be settled) still remain at the rear. The Internet, as one of the sources of information's that is still not to be believed unreservedly. Although at the present time practically does not exists the firm that would not have an Internet connection, but Internet access is still not accessible to all employees in so far as to appear at the first glance. One reason for this is the fact that some companies, because of the abuse of the Internet by their employees for the private purposes, they supervise and control its access. Another reason is the information's congestion. It is expected that the internet in the nearby future has become the increasingly important and widely used source of information's and recommendations for the future research and also to monitor the intensity of the use of the Internet not only for private purposes but also for the business. Computer literacy is increasingly present regardless of age, which is certainly one of the basic requirements in creating preferences for the Internet as one of the sources of business information's

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