

# EXAMINING MANAGEMENT INFORMATION FLOWS IN BUSINESS ORGANISATIONS

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## Abstract

**Background.** The application of modern information technologies alone does not solve communication problems in companies. The effectiveness of internal information flow is contingent on many factors with employees' participation in planning being supposedly the one.

**Research aims.** The paper examines downward and upward information flows by looking through “the lens of employees” and considering their participation in planning processes. It links strategic awareness and operational planning on the one hand with performance reporting, scope of control, post-control information, and managerial feedback on the other.

**Methodology.** The results presented in the paper are based on a survey comprising 179 Polish companies. The authors employed a qualitative approach based on mining descriptive comments provided by employees matched with quantitative results based on pre-defined answer options.

**Key findings.** The content analysis revealed a certain level of reporting duties being delegated at a departmental level. It was also visible that control activities were a part of a corporate learning process, and that meetings of managers with their employees contributed to a performance related dialogue. On the other hand, the said effects were achieved by a small share of Polish companies, since only one fifth of those engaged employees in their planning processes.

**Keywords:** content analysis, employees, management information flow.

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## INTRODUCTION

Despite the fact that contemporary companies intensively use modern IT systems, which facilitate internal communication by collecting information from every level of organisational hierarchies and sharing it instantly among members of an organisation (Heath, 1998; Päril, 2012), knowledge transfer is fraught with difficulties (Leonardi, 2011; Jarvenpaa & Leidner, 1999; Maznevski & Chudoba, 2000). Obstacles arise due to a lack of direct contact between people working in the same organisation and the so-called “circular problem” which results in a distortion of information transmitted from senders to receivers. In other words, a final message which arrives at its terminus is deprived of the original context, key referents and sensory stimuli (Leonardi, 2011). Therefore, receivers are unable to acquire contextual understanding which is essential to follow an idea included in a message.

The said situation makes management control system (MCS) face the challenge of acting as a mediating instrument which ensures effective information flow between top- or middle-tier management and lower-level employees. Firstly, MCSs should enable operational managers to understand objectives set by top management. Secondly, a proper comprehension of messages generated by higher-level managers should strengthen local actions in order to meet assumed objectives. Therefore, MCSs should connect all levels of organisational hierarchy toward a common strategy (Päril, 2012). In other words, all members of an organisation are supposed to exercise control over resources and processes. An input of each employee amplifies their feeling of affiliation to a company and increases awareness of interplays between a success of an entire organisation and individual goals or contributions. This awareness is implanted in employees’ minds particularly well when they know how their efforts and performance are measured, and how the two are reflected in the overall corporate performance. Such is the nature of an organisation understood as a socially constructed institution, sharing assumptions concerning activities and interrelations between human actors, creating roles and routines, and determining values of particular actors (Burns & Scapens, 2000).

In the foregoing context the aim of the paper is to build a framework of management information flow within MCS by looking through

“employees” lens’ and considering intensity of their participation in planning processes. Such a framework may lay the foundations for a theoretical model reflecting organisation of management information flows. Based on data collected in the period of November 2013–January 2014, referring to 179 Polish enterprises, certain situations which imply top-down or bottom-up planning will be considered. The analysis will cover two types of information streams: down- and upward ones, where the first relates to management feedback and the latter covers control and performance reports.

The paper is divided into two major sections. The first, delineates research design, including outline of a study, composition of a sample, research questions and methodology applied. The second, based on narrative comments of employees and their answers to close-ended questions, discusses relations between bidirectional information flows and planning systems in Polish companies. Our contribution may both provide new knowledge on organisation of management information flow in companies located in a transition country and serve as a reference for comparative international studies, in particular those concerning Central and Eastern European countries.

## RESEARCH DESIGN

### Research background and questions

The research presented in the paper will attempt to outline a framework of management information flows in Polish enterprises. Consequently, we look for a link between theories and concepts included in a broad literature on internal communication in the context of general corporate communication, HRM, and public relations (Smeltzer, 1996; Quirke, 2000; Kitchen & Daly, 2002; Daly, Teague, & Kitchen, 2003; Hargie & Tourish, 2004; Downs & Adrian, 2004; Kalla, 2005; Holtz, 2006; Welch & Jackson, 2007; Ruck & Welch, 2012; Rogala, 2014) on the one hand, and only a slightly narrower literature on modelling information flows in a management context (Feinstein & Morris, 1988; Ben-Arieh & Pollatscheck, 2002; Burstein & Diller, 2004; Ho *et al.*, 2004; Berente, Vandenbosch, & Aubert, 2009; Durugbo, Tiwari, & Alcock, 2013) on the other hand. The search for the said link is requested considering the limited existing body of knowledge on internal information flows

coupled with MCSs (Segars, Grover, & Teng, 1998; Otley, 1999; Abernethy, Bouwens, & Van Lent, 2010; Päril, 2012).

In particular an interesting problem and a one worth exploring is how MCSs may benefit from modelling information flows. The objective is to find solutions how to organise and coordinate processes of information flows effectively by eliminating redundant processes, minimising information overlapping and managing a distribution of intra- and inter-organisational information (Durugbo, Tiwari, & Alcock, 2013). The early studies which searched for connections between MCSs and information flows were those of Lowe (1971), Morris (1986), Evans, Levis and Patton (1986). They found roles of MCSs in: (1) “organisational information seeking and gathering” (Lowe, 1971), (2) assurance that “both the employees and the organisation have the information provided by the system” (Morris, 1986), and (3) reporting to managers or owners about favourable or unfavourable business conditions (Evans, Levis, & Patton, 1986).

In the foregoing context the authors will address the following research questions.

- 1) How an organisation size, a business domain or an internationalization level influence the flow of strategic management information in a company?
- 2) How an organisation size, a business domain or an internationalisation level influence the flow of operational management information in a company?
- 3) How management communication styles affect post-control or performance related information flows to lower organisational tiers?
- 4) How involvement of employees in operational planning processes impacts regularity and scope of management control reports?

In search for the answers to the research questions the paper will apply a content analysis supported by text mining software. The reason for applying the said methodology is that it enables to systematise narrative information generated in finance and accounting systems and beyond which is used in communication with internal and external stakeholders. Up to now it has found its application in addressing such issues as social and environmental responsibility (Milne & Adler, 1999), the business environment, market situation, strategies, new products, or customer relations (Robb, Single, & Zarzeski, 2001). Thus the application of the content

analysis to systematise management information flows within a company opens a new exploratory field.

It is also important to mention that in case of content analysis one should not formulate research hypotheses but research questions. The reason for that is that the content analysis is an exploratory method and its results may serve as a foundation for formal hypotheses to be validated with quantitative methods later on (Krippendorff, 2013, pp. 35–38). For the said reason the results of the content analysis presented in the final part of the paper will be supported by quantitative ones, which make the prior more meaningful.

## **Research outline**

The data and results presented in this paper are based on a study conducted by the authors between November 2013 and January 2014. The research focused on the place and roles of management control systems in business organisations. The empirical part will cover an analysis of a data set covering 179 objects. The material for the research was collected with the help of employees of the examined objects, who originated from student/alumni network of the parent university of the authors. The research was conducted with the help of a standardised questionnaire consisting of three parts.

The first, covered basic characteristics of the examined organisations (their legal status, foundation year, total employment, sales revenue or an annual budget, a business domain, a geographical area of operation, and a capital structure). The second one included 16 questions related to: planning (how companies set their strategic goals and operational objectives), control (methods used in order to assess economic performance and efficiency of business processes), reporting (how managerial information was communicated to and comprehended by employees) and communication processes (how solutions within data processing and internal communication helped to build organisational knowledge pools). Each question was accompanied by six most typical answers identified with the help of open questions asked in the pilot research conducted between November 2010 and January 2012 (Dyczkowska & Dyczkowski, 2012, pp. 46–48). It was also possible to formulate “other”, own response. In any case it was required to describe a situation in a company in details and to provide narrative evaluation of it. The said narrative evaluation will be the subject of the content analysis

presented in this paper. The final three questions validated collected information by describing positions, work-profiles and experience of the employees who provided information, data sources they used and any difficulties in addressing the questions.

For the purpose of investigating management information flows in Polish companies and their links to participative planning, six questions from the above mentioned questionnaire and employees' narrative comments on them were taken into account.

Respecting the involvement of employees in the planning process, the issues of 'strategic awareness' (Dyczkowska & Dyczkowski, 2015) and "operational planning processes" were considered. The first was addressed by the question: "Does the organisation draw up strategic plans and are employees made familiar with them?" with the following pre-defined answer options to be explored in details: (1) "strategic plans are drawn up for each area of business activity"; (2) "a strategy is known to employees"; (3) "a strategy is known exclusively to managers"; (4) "there are some general long-term plans developed"; (5) "planning refers to one-year or even shorter periods"; and (6) "an organisation performs day-to-day activities". The operational planning process was captured by the question: "Does the organisation fix operational goals for particular subunits, teams, or individual employees?" accompanied by the following answer options: (1) "employees participate in a goal-setting process"; (2) "goals are established by senior management in the form of a plan to execute"; (3) "superiors establish targets for the nearest period"; (4) "superiors express only general expectations towards employees"; (5) "employees are expected to perform their duties"; and (6) "employees do not have a scope of their duties defined".

The investigations on information flows were split into examinations of downward and upward information streams, and described by answers to two questions in each case. With regard to downward information flows the issues of post-control information and managerial feedback were addressed. The first reflected responses to the question: "Do controlled departments or individual employees receive post-control feedback?", including: (1) "regular reports with recommendations"; (2) "results of external control"; (3) "direct information from superiors"; (4) "information on detected problems or errors"; (5) "various collective breakdowns"; and (6) "no post-control information is received". The managerial feedback was addressed by the following question: "Are there any meetings convened where organisational performance is

discussed?”, accompanied by six pre-defined responses: (1) “employees participate in regular meetings with the management or superiors”; (2) “superiors discuss with employees their performance”; (3) “there is an annual meeting with a presentation of performance convened”; (4) “there are some briefing sessions for employees organised”; (5) “the meetings include management only”; and (6) “there are no such meetings organised”.

The first question concerning the upward information stream was related to performance reporting, namely: “Do particular departments or employees draw up performance reports?”. It considered the following answer options: (1) “regular management reports”; (2) “regular information to superiors”; (3) “individual reports on employees’ performance”; (4) “annual reports on business activities”; (5) “various collective breakdowns, if necessary”; and (6) “no reports are produced”. The other way of defining upward information flows was to analyse the scope of control reports with the help of the following question: “What areas, processes or issues are supervised by a department or a person responsible for control?”. The following six answers were pre-defined: (1) “corporate performance and cost control”; (2) “assessment of employees and organisation of work”; (3) “legal and formal control”; (4) “production, services, and quality control”; (5) “planning, reporting, and providing feedback”; and (6) “no control activities”.

The results presented in the final part of the paper will cover both narrative answers to the defined six questions, as well as selected quantitative results based on the pre-defined answers, as described above.

## Research sample

Table 1 characterises the structure of the examined companies considering: their size (micro, small, medium, and large ones), the year of establishment and business domain. A size of each class (integer numbers) and their shares in the whole analysed group (percentages) are indicated, as well. Dominating values for each subgroup of companies (rows) were distinguished with a bold print.

When the structure of the research group is analysed, it should be noted that large companies prevailed in the sample (48.0%). The SME cluster was dominated by small enterprises (34 objects) with a similar number of companies belonging to micro- and medium-sized

groups (30 and 29 objects). The structure of the sample resembles the distribution of labour force among companies of various sizes operating in Poland, where large companies hold 39.7% of overall human resources, and the rest is employed in: medium-sized companies (23.8%), microenterprises (19.4%), and small companies (17.1%) (Central Statistical Office, 2014, p. 49). It needs to be mentioned that despite using a standard method of qualifying particular objects to size classes, including total employment, annual turnover and a total value of assets (with typical thresholds), in case of several smaller companies where managers were reluctant to reveal financial information to employees, staff size was treated as the sole qualification criterion.

**Table 1.** Composition of the examined sample

Subgroup \ Size	Micro enterprises	Small enterprises	Medium enterprises	Large enterprises	Total
before 1989	2 (5.6%)	6 (16.7%)	4 (11.1%)	<b>24 (66.7%)</b>	36
1989–1994	5 (13.2%)	3 (7.9%)	13 (34.2%)	<b>17 (44.7%)</b>	38
1995–2003	4 (8.5%)	12 (25.5%)	6 (12.8%)	<b>25 (53.2%)</b>	47
2004–2009	14 (29.2%)	12 (25.0%)	5 (10.4%)	<b>17 (35.4%)</b>	48
after 2010	<b>5 (55.6%)</b>	1 (11.1%)	1 (11.1%)	2 (22.2%)	9
farming & food	–	3 (18.8%)	6 (37.5%)	<b>7 (43.8%)</b>	16
industrial production	3 (7.3%)	7 (17.1%)	3 (7.3%)	<b>28 (68.3%)</b>	41
construction	6 (28.6%)	<b>8 (38.1%)</b>	5 (23.8%)	2 (9.5%)	21
trade and logistics	5 (14.3%)	9 (25.7%)	5 (14.3%)	<b>16 (45.7%)</b>	35
ICT sector	–	4 (28.6%)	1 (7.1%)	<b>9 (64.3%)</b>	14
finance & insurance	6 (15.4%)	5 (12.8%)	2 (5.1%)	<b>26 (66.7%)</b>	39
services	<b>19 (32.2%)</b>	12 (20.3%)	11 (18.6%)	17 (28.8%)	59
Total	30 (16.8%)	34 (19.0%)	29 (16.2%)	86 (48.0%)	179

Source: own elaboration.

Considering the foundation year, it can be observed that 36 enterprises (including 24 large ones) were set up prior to the times of free market economy in Poland, 85 entities were established before the Polish access to the European Union. Another 57 companies started their business operations after the said moment.

Respecting a business area, the examined companies were grouped in seven domains: farming and food industry, industrial production, construction, trade and logistics, information and telecommunication technologies (ICT), finances and insurance, and services. The most



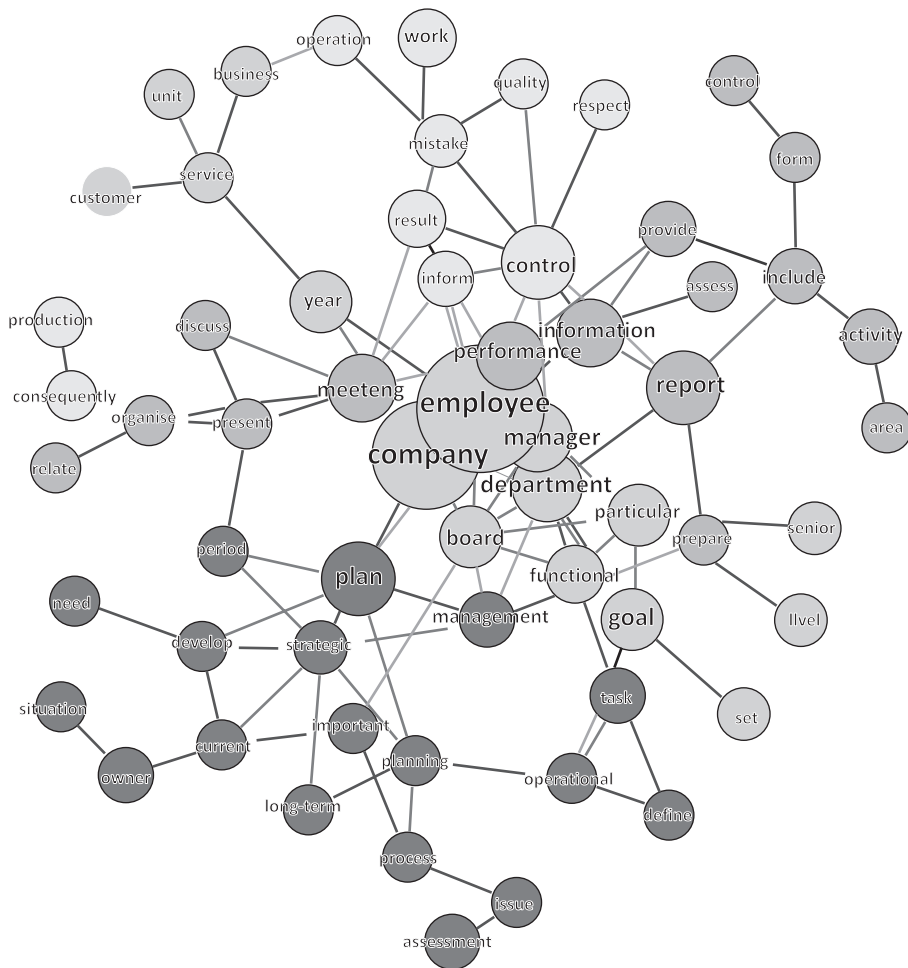
abundant categories included: services (59 objects, with 42 SMEs), production companies (41 objects, with 28 large companies), finances and insurance (39 companies, including 26 large ones) and trade and logistics (35 objects, with 19 SMEs). Small companies were the most common in the construction sector (38.1%).

## RESULTS OF THE RESEARCH

### Content analysis

The content analysis aims at capturing relations between information included in text. Nowadays, its application employs computer-aided text mining algorithms, which enable to acquire knowledge from coded messages included in documents, by processing text (text categorisation, information extraction, term extraction), analysing it (distribution analysis, clustering, association rules) and visualising results (Feldman & Sanger, 2007, p. 1). The said approach was also taken by the authors as the descriptive part of collected questionnaires (regarding the six questions presented in the research design section) was analysed with *KH Coder* text mining software. The results of the said analysis in a form of word co-occurrence network are presented in Figure 1. It visualises top 120 relations between words of any grammatical forms, except for the so-called “stop words” which carry little semantic load (e.g. articles, conjunctions etc.). The observations resulting from the content analysis are also matched with quantitative information based on pre-defined answer options selected in particular research forms.

It should be explained that larger circles indicate words which occur more frequently while thicker lines (or overlapping circles) represent stronger links between certain concepts (more frequent co-occurrence of particular words in paragraphs included in descriptive parts of the survey). Consequently, the most frequently referred words in the questionnaires included such terms as: “employee” (since the employee perspective was adopted in the research), “company” and “department” (as different levels of organisational hierarchies and of information aggregation were analysed), as well as “managers” (who were associated both with departments they headed and employees they supervised). Different shades in the network indicate word clusters. The clusters include groups of related concepts. The following clusters, built around the central concepts, were identified:



**Figure 1.** Relations between concepts analysed in the research

Source: own elaboration generated with *KH Coder* software.

“employee”, “control”, “reporting”, “planning”, “meeting”, as well as smaller groups such as those related with: “tasks”, “services” and “production”. It should be pointed out that the major clusters reflect the scope of the analysis which looks at interaction between participative planning and management control, including questions related to: control, reporting and internal meetings. The minor clusters such as: “tasks”, “services” and “production” reflect the ways in which the work of the examined companies and their employees was organised.

## The factors influencing strategic management information flows

First of all, it should be mentioned, that the analysis of descriptive parts of the questionnaires respecting strategic orientation of companies demonstrated a link of a “strategy” and “plan” terms, what reflected formalised strategies developed by numerous companies. Moreover, “strategies” were linked via “plans” to a “company” and “managers” concepts what showed a centralized approach to strategic planning. Interestingly, there was no direct involvement of owners in strategic planning detected, since the former seemed to be mostly interested in a “current” situation, its “development” and in the most “important processes” – what is indicated in the word co-occurrence network.

With the help of quantitative data analysis (see Table 2) it can be added that the considerable share of employees working in the examined enterprises (36.3%) was conscious of the strategies adopted in their companies. This was mostly the case of large companies (47.7%), but also of 37.9% medium-sized ones. The need to communicate strategies to employees at all levels in corporate hierarchy was well recognized by production companies and those operating in finances and insurance or ICT domains, for which 43.9%, 48.7% and 42.9% objects respectively reported familiarity of staff with corporate strategies. The detailed information showed also that companies with foreign capital were more eager (54.2% of cases) to inform their employees about strategic issues than entirely Polish enterprises (26.5% share).

The research enabled also to identify a considerable group of enterprises whose employees were conscious that their company developed strategic plans, however, they were not familiarized with any details of long-term business objectives. Responses indicating the existence of “some general long-term plans” (23.5% of answers) or suggesting that strategic plans were available to managerial staff only (23.5%) proved that many organisations still perceived employees as executors of managers’ decisions rather than contributors to corporate business visions. Finally, it should be noted that there existed a considerable share of enterprises which took *ad hoc* decisions (21.2%). Such a situation was the most frequent in micro and small companies, with the narrowest scope of business activities. As much as a half of microenterprises did not consider any planning necessary for their operations, and in the best case they only communicated tasks which their employees had to fulfil.

**Table 2.** Strategic awareness in various groups of companies

Answers* Subgroups	Strategic plans are drawn up for each area of business activity	A strategy is known to employees	A strategy is known exclusively to managers	There are some general long-term plans developed	Planning refers to one-year or even shorter periods	The organisation performs day-to-day activities
Micro enterprises	–	16.7%	16.7%	6.7%	23.3%	<b>50.0%</b>
Small enterprises	17.6%	23.5%	11.8%	23.5%	20.6%	<b>38.2%</b>
Medium enterprises	13.8%	<b>37.9%</b>	20.7%	27.6%	<b>31.0%</b>	24.1%
Large enterprises	41.9%	<b>47.7%</b>	<b>31.4%</b>	<b>27.9%</b>	30.2%	3.5%
Polish ownership	18.6%	26.5%	20.4%	23.9%	26.5%	<b>32.7%</b>
Foreign investor	39.0%	<b>54.2%</b>	27.1%	<b>25.4%</b>	<b>30.5%</b>	–
Farming & food	37.5%	<b>50.0%</b>	31.3%	25.0%	25.0%	6.3%
Industrial production	31.7%	<b>43.9%</b>	<b>34.1%</b>	<b>31.7%</b>	<b>36.6%</b>	12.2%
Construction	4.8%	14.3%	9.5%	14.3%	9.5%	<b>52.4%</b>
Trade and logistics	28.6%	<b>34.3%</b>	31.4%	22.9%	31.4%	28.6%
ICT sector	<b>64.3%</b>	42.9%	–	21.4%	<b>50.0%</b>	–
Finances & insurance	28.2%	<b>48.7%</b>	17.9%	15.4%	23.1%	10.3%
Services	23.7%	27.1%	8.5%	15.3%	27.1%	<b>39.0%</b>
<b>Total</b>	<b>25.7%</b>	<b>36.3%</b>	<b>23.5%</b>	<b>23.5%</b>	<b>27.4%</b>	<b>21.2%</b>

\*more than one answer could be selected

Source: own elaboration.

**Table 3.** Goal-setting process in various groups of companies

Answers* Subgroups	Employees participate in a goal-setting process	Goals are established by senior management in the form of a plan to be executed	Superiors establish targets for the nearest period	Superiors express only general expectations toward employees	Employees are expected to perform their duties	Employees do not have the scope of their duties defined
Micro enterprises	3.3%	16.7%	40.0%	13.3%	76.7%	13.3%
Small enterprises	17.6%	14.7%	35.3%	35.3%	70.6%	17.6%
Medium enterprises	24.1%	27.6%	27.6%	17.2%	55.2%	10.3%
Large enterprises	30.2%	55.8%	36.0%	34.9%	57.0%	18.6%
Polish ownership	14.2%	31.0%	35.4%	30.1%	68.1%	14.2%
Foreign investor	37.3%	49.2%	37.3%	27.1%	50.8%	20.3%
Farming & food	31.3%	18.8%	25.0%	43.8%	43.8%	18.8%
Industrial production	31.7%	43.9%	46.3%	31.7%	51.2%	19.5%
Construction	19.0%	23.8%	23.8%	19.0%	47.6%	14.3%
Trade and logistics	31.4%	28.6%	28.6%	45.7%	82.9%	25.7%
ICT sector	50.0%	35.7%	50.0%	35.7%	50.0%	28.6%
Finances & insurance	23.1%	56.4%	28.2%	23.1%	64.1%	20.5%
Services	18.6%	27.1%	33.9%	30.5%	67.8%	20.3%
<b>Total</b>	<b>22.3%</b>	<b>36.9%</b>	<b>35.2%</b>	<b>28.5%</b>	<b>62.6%</b>	<b>16.2%</b>

\*more than one answer could be selected  
Source: own elaboration.

## **The factors influencing operational management information flows**

Qualitative analysis concerning the operational level indicated that “goals” were linked to “departments” what suggested certain decentralisation of decision-making. Similarly “planning” as a process turned out to be related to ‘operational tasks’ and further to “functional departments”, what implied that tasks were defined at lower organisational levels. That indicated a participative nature of planning.

The selection of pre-defined answer options (see Table 3) demonstrated, that participative planning was not the prevailing situation in the analysed enterprises. According to the information provided by interviewees that approach was taken by 22.3% of companies, with the highest share among large and medium-sized companies (30.2% and 24.1% respectively). Considering the industrial profile, bottom-up planning was implemented by 31.7% of production companies and 23.1% of those active in finances and insurance domains, and beyond that in a half of the small ICT cluster. In case of manufacturing companies, higher involvement of operational managers responsible for production processes, R&D, supply, or sales in planning processes was observed.

While analysing operational planning it should be stated that the most frequent approach was the top-down procedure (reported by 36.9% of all examined companies). This approach was the most frequent among large companies (55.8% of cases). Imposed plans were a typical way of organising work in finances and insurance (56.4%) as well as in production companies (43.9% share). The detailed information showed also that the top-down planning was more frequent among large companies with foreign capital (49.2% of cases) than in similar Polish enterprises (31.0% share). Another less formalised form of non-participative planning consisted in formulating tasks – usually with deadlines – by direct superiors of employees. This form was frequently reported in case of microenterprises (40.0%), but it was also found in numerous organisations of other sizes. Direct involvement of superiors played an important role in monitoring: activities and processes, employees’ work, as well as in identifying operational problems to be solved. When the influence of an industrial profile of a company on the ways it organised business activities was investigated, a superior-centred model was detected in trade and logistics

companies (28.6% of cases). Referring to detailed accounts provided by the employees, that situation had its origins in the contact between regular employees and customers. All processes which contributed to customer relationships were scrutinised.

### **Strategic awareness and post-control information flows**

In case of post-control information flow, it should be pointed out that with a growing size of an organisation, management feedback intensified. That situation was observed in particular respecting the most valuable form of post-control information flow, namely regular reports with recommendations for employees. Such reports were available to personnel in 33.7% of the examined large companies. It was also observed that in small- and micro company clusters 26.5% and 33.3% respectively did not provide any regular or irregular, formalised or spontaneous feedback on control results. Considering the forms of feedback, it can be noted that employees of large companies frequently received (48.8% of cases) information on problems or errors detected. This communication method was also popular in micro objects (26.7%). Its effects were amplified in microenterprises by direct feedback from superiors (observed in 26.7% of cases). This observation was also supported by the results of the text mining showing closed links of “control” with “information” and “employees”, representing a post-control information stream directed at the staff of the examined enterprises. Considering the business profiles of the examined enterprises, it was proven again that production companies paid closer attention to internal communication. In 31.7% of the examined manufacturers, employees were provided with regular reports including post-control recommendations. The situation of companies active in finances and insurance (25.6% shares) was not much worse.

With regard to managerial feedback, the analysis of descriptive parts of questionnaires revealed “meetings” for “employees” as an important form of “information” sharing. Moreover, meetings were linked with “presentations” and then with ‘discussions’ what implied that participation of employees in presentations of corporate results was not passive but, on the contrary, they could express their opinions. However, meetings were dedicated to results of certain “periods”, what suggested that a possible discussion referred to “what was”

rather than “what will (should) be”. Moreover, the already mentioned link between “managers”, “departments”, and “employees” suggests that managers of the analysed companies might have acted as information hubs for employees, deciding what to reveal and what to keep secret. That observation was confirmed by quantitative data which showed that in most companies meetings were not organised in the form of open forums, but as closed assemblies of corporate inner circles. Interestingly, in large companies both situations when meetings were open to employees (43.0% of cases) and when they were convened exclusively for managers (33.7%) were the most common. Apart from the obvious justification that in large companies it was necessary to centralise some and decentralise other decision-making processes – what determined the feedback framework – another, less obvious, explanation was detected, too. Information provided in particular questionnaires showed that differences derived from organisational cultures, and in particular from shareholder structures. In companies with foreign investors, regular open meetings with managers were organised (45.8% of answers). In companies with Polish ownership performance-related communication was much more restricted. Only 20.4% of such organisations invited employees to corporate meetings. It should also be added that in microenterprises it was a very frequent situation when no discussion on performance was initiated (56.7% of cases). This was justified by the fact that managing owners were trying to keep control over all aspects of operations single-handedly.

Finally, when an industrial profile of the examined companies was analysed, it could be noted, that in case of finances and insurance or manufacturers, employees were officially informed on corporate performance the most frequently (41.0% and 34.1% of cases respectively). This might be explained by involvement of foreign capital in many companies active in those domains (51.2% and 41.0% respectively). On the other hand, in the service sector, a situation when no meetings were convened was the most common (33.9%). This resulted from the highest share of microenterprises (32.2%).



**Table 4a.** Strategic awareness and a flow of post-control information

Observed situations*	Strategic plans are drawn up for each area of business activity	A strategy is known to employees	A strategy is known exclusively to managers	There are some general long-term plans developed	Planning refers to one-year or even shorter periods	The organisation performs day-to-day activities
Regular reports with recommendations	19	21	9	8	11	1
Results of external control	17	22	7	10	9	3
Various collective breakdowns	12	13	6	6	7	1
Direct information from superiors	20	31	12	19	21	13
Information on detected problems or errors	20	25	23	23	21	17
No post-control information is received	6	8	10	8	7	12

\*more than one answer could be selected  
Source: own elaboration.

**Table 4b.** Strategic awareness and managerial feedback

Observed situations*	Strategic plans are drawn up for each area of business activity	A strategy is known to employees	A strategy is known exclusively to managers	There are some general long-term plans developed	Planning refers to one-year or even shorter periods	The organisation performs day-to-day activities
There is an annual meeting with a presentation of performance convened	22	23	12	12	15	3
Employees participate in regular meetings with a management or superiors	28	30	9	13	13	5
Superiors discuss with employees their performance	28	36	12	16	17	7
There are some briefing sessions organised for employees	23	25	9	11	19	6
The meetings include management only	10	14	19	15	13	9
There are no such meetings organised	0	5	6	6	9	17

\* more than one answer could be selected  
Source: own elaboration.

Observing the relation between strategic planning and post-control information flows (see Table 4a, presenting a number of examined companies where particular situations coexisted) it should be noted, first of all, that post-control information was obtained the most often when a strategy was known to employees. Moreover, on the one hand a strategy formulated for each area of business activities also effectively stimulated post control-information flows in the form of: regular reports, results of external controls, and various collective breakdowns. On the other hand, post-control information flows in the form of direct information from superiors and information on detected problems or errors existed regardless of the fact whether a company developed a strategy and communicated it to employees or, on the contrary, they formulated general or short-term plans, or even their planning process was reduced to day-to-day activities. The last situation often made employees' access to information dependent on their contact to superiors, what often meant that they received either information on detected problems and errors only or the no post-control information was provided whatsoever.

Confronting strategic planning with managerial feedback (see Table 4b) one can also observe that formulation of a strategy for each area of business activity and its communication to employees were those situations where performance related information was provided to employees in the most comprehensive way. As expected, when a strategy was not revealed to employees, meetings where performance was discussed were organised in management inner circles only. Finally, a situation when activities were planned in an ad hoc manner frequently implied no performance related meetings.

### **Employee participation and management control information flows**

When detailed information on upward information flow is analysed, the following conclusions can be drawn. Firstly, the "reporting" was linked mostly with "departments" and "preparing" what indicated existence of the bottom-up information flow, where departments issued management reports adjusted to the information needs of the "board". Secondly, as for integration of employees in the reporting process, narrative information suggests links between "employees" and such terms as: "year", "service", and "customer", what indicated

frequent annual assessments of customer-related (or sales-related) goals, prevailing in service-oriented companies.

With a reference to quantitative information, the existence of a relation between management reporting and company size could be confirmed. While medium-sized and large companies developed regular management reporting, at least on the departmental level (62.8% of large and 55.2% of medium-sized companies respectively), in microenterprises lack of management reporting was a prevailing situation (33.3%). In case of large companies, individual reports on employee performance were also the most common (reaching 39.5% a share). Microenterprises preferred to deliver reports on demand (43.3% of answers). Small companies tended to be closer to micro- than to medium-sized companies in their reporting patterns, with a slightly higher share of regular reporting. Analysing the answers provided by companies from various sectors of the economy, no striking differences occurred, in particular when the smallest clusters (i.e. farming and food or ICT industries) were left out. Nonetheless, just as expected, manufacturers proved to make use of regular management reports on at least departmental level more often (61.0%). The worst situation in this respect was observed in the construction sector (only 38.1% share). In the finances and insurance domain individual employee evaluations were the most frequent (28.2% of cases).

An interesting conclusion may be drawn when the scope of control information, which was included in the aforementioned management reports, was analyzed based on narrative parts of the questionnaires. The word “control” turned out to be linked to “information”, “results”, “mistakes”, and “respect” what implied a managerial approach to control. Such control is focused on information support, performance management, identification of bottle-necks and improvement. Interestingly, “respect” shows that control – also linked with “quality” – was a part of the improvement process, instead of focusing on penalising mistakes. This is particularly important, since the link of “control” with “work” *via* “results” was observed as well, what suggested intensive scrutiny of employees’ duties, where the learning effect was most welcome.

The quantitative analyses added in this respect that a control framework was related to company size, as in larger enterprises a broader scope of control tasks was covered. Respecting various industries, again production companies were the most active in case of quality screens (61.0%) and in preparing plans, reports, and internal recommendations

**Table 5a.** Goal-setting process and a flow of control information

Observed situations*	Employees participate in the goal-setting process	Goals are established by senior management in the form of a plan to be executed	Superiors establish targets for the nearest period	Superiors express only general expectations toward employees	Employees are expected to perform their duties	Employees do not have the scope of their duties defined
Information is provided for the purpose of an annual business summary	6	7	10	4	12	6
There is a regular transfer of information about performance and operational efficiency	25	44	40	30	57	16
Information is provided to superiors	16	32	28	22	42	12
Information is provided when requested	22	25	31	31	61	16
All problems need to be reported	20	30	32	31	57	16
No information of that kind is provided	4	5	6	2	7	3

\*more than one answer could be selected

Source: own elaboration.

**Table 5b.** Goal-setting process and the scope of control information

Observed situations*	Employees participate in the goal-setting process	Goals are established by senior management in the form of a plan to be executed	Superiors establish targets for the nearest period	Superiors express only general expectations toward employees	Employees are expected to perform their duties	Employees do not have the scope of their duties defined
Corporate performance and cost control	25	36	32	29	52	20
Assessment of employees and organisation of work	19	32	27	19	44	16
Legal and formal control	17	35	21	20	40	15
Production, service, and quality control	14	31	27	22	39	12
Planning, reporting, and providing feedback	21	34	23	24	34	16
No control activities	3	0	4	2	6	0

\*more than one answer could be selected  
Source: own elaboration.

(41.5% of answers). Moreover, they were second best (after the small farming and food industry cluster) in case of performance and cost assessments (51.2%). Interestingly, though, considering the results of text mining, production control turned out to be somehow detached from the rest of the network, what resulted from technological rather than business orientation of production control.

When relations between the goal-setting process were coupled with the flow of control information (see Table 5a), it could be observed, first of all, that the regular transfer of information about performance and efficiency was provided the most often both when employees participated in the goal setting and when planning was formalised in a top-down form. On the other hand, when operational targets were not set, a control information flow was initiated on request or reduced to problem reporting. One can also note that control information provided for annual summaries or directly to superiors was not conditioned by the ways in which operational planning was organised.

Finally, based on the conformation of the operational planning methods with the scope of control information provided to managers (see Table 5b), it can be said, that performance and cost related information was the most requested by managers in any situation. However, when senior managers set plans to be executed by lower organisational tiers, the requested scope of information was the broadest, covering also: assessment of employees, legality, quality, and the conformation of plans with their execution. No situation was identified when the said top-down plans remained uncoupled with any control activities.

## DISCUSSION

Before the results of the research are concluded it should be noted that numerous papers on performance management refer to the goal-setting theory of Locke and Latham which emphasizes the importance of participative planning, where goals are set by managers and employees in regular meetings (Locke & Latham, 2013). Consequently, employees tend to accept goals much better for, at least, two reasons. First of all, they understand the rationale of the goals, as they could actively discuss them at the goal-development phase. Secondly, they feel that goals are achievable, since they were personally involved in a goal formulation. Moreover, Boswell (2006) pointed out, that employees' comprehension

of how to contribute to the strategic goals was more important than understanding the goals only. "It appears that employees who understand how to contribute to an organisation's strategic goals are more likely to feel a sense of belonging (or fit), perhaps since they are better able to work in alignment with the firm's needs, while this is not necessarily the case for employees that are aware of the strategy but not necessarily know what to do about it" (Boswell, 2006, p. 1504).

In the said context, the authors analysed familiarity of Polish employees with strategic goals. It turned out that many large- and medium-sized companies (where strategic planning was the most developed) kept their employees informed about strategic objectives. Proper communication of strategies was observed particularly in finances and insurance, production, and ICT companies, and was more frequent in enterprises which had foreign investors rather than Polish owners. Higher strategic awareness in the above-mentioned industries and companies with foreign connections supports observations of Westley (1990), Purser & Cabana (1997), Fiegenger (2005), Elbanna (2008), and Kohtamäki *et al.* (2012), who emphasized the importance of participative planning, particularly at a strategic level, while acting at dynamic markets. Production, finance, and ICT domains, especially on international markets, can surely be labelled as such.

On the other hand, the level of participation in planning processes in Polish enterprises cannot be treated as sufficient. Such an approach was adopted only by 22.3% of the examined facilities, with low variances between size groups (except for microenterprises, where the said level was 3.3% only). Again, the same industries which made their personnel familiar with strategies integrated employees into their planning processes more often.

A flow of performance-related information must not be exclusively reserved to managers (Pärl, 2012) as it encourages learning processes in an organisation (Payne & Hauty, 1995). In this context, the narrative parts of the surveys signalled relations between participative planning and downward and upward information flows which should be treated as a sign that Polish enterprises understand the role of internal communication and its influence on corporate performance. The comments of employees proved that companies, which made their staff members familiar with strategic plans and made them contribute to the operational planning processes, were also much more willing to deliver performance related information back to lower organisational



tiers. That observation supports the thesis of Flanagan and Bator (2011), who emphasized a communicative nature of knowledge. Feedback is needed to learn, improve, and remain motivated.

## CONCLUSIONS

The objective of the paper was to examine management information flows in business organisations. Therefore, it is worth summarising the major results obtained which determine a framework of the said flows in Polish organisations.

The first two research questions analysed in this paper examined whether flows of strategic or operational management information differed depending on an organisation's size, a business domain, or an internationalization level. In this context, it can be stated that strategic planning and communication, as well as operational planning, are the most developed in large companies, those where foreign capital is involved, and operating in production or finances and insurance sectors. It can be claimed, therefore, that the employees' strategic awareness and their involvement in operational planning should and do increase with a growing complexity of business operations.

The third research question checked whether managers, making their staff strategically aware, were more willing to deliver post-control or performance related information back to lower organisational tiers. It should be concluded that post-control information was obtained the most often when a strategy was known to employees. When business operations were planned in an ad hoc manner employees received either information on detected problems and errors only or no information whatsoever, with no opportunity to discuss performance-related issues during management meetings.

The last research question investigated whether employees involved in operational planning processes provided regular control reports to managers more often. It can be stated that the regular transfer of control information was provided the most frequently both when employees participated in goal setting and when planning was organised in a top-down form. In any case, what managers cared the most of was performance- and cost-related information.

To conclude, the paper has a threefold contribution to the literature. Firstly, it extends the discussion on relations between strategies and

management control systems, by introducing a construct of “strategic awareness” which turned out to be meaningful in relation to particular components of management information stream – both down, and upward ones. Secondly, the reverted cognitive perspective – against that adopted in the majority of research works on management control, taking the view point of managers or controllers – enables to capture influence of participative planning on information available to regular employees. Finally, a merger of text mining and quantitative analyses helps to understand the complex relations between management information flows and planning in a more comprehensive way.

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## ANALIZA PRZEPŁYWÓW INFORMACJI ZARZĄDCZYCH W PRZEDSIĘBIORSTWACH

### Abstrakt

**Tło badań.** Zastosowanie nowoczesnych technologii informacyjnych nie rozwiązuje natychmiast problemów komunikacyjnych w przedsiębiorstwie. Skuteczność przepływu informacji wewnętrznych zależy od wielu czynników, do których przypuszczalnie należy włączenie pracowników w planowanie.

**Cel badań.** Niniejszy artykuł bada przepływy informacji zarządczych inicjowane odgórnie i oddolnie, przyjmując perspektywę pracowników i odnosząc się do kwestii ich udziału w procesie planowania. Analizowane są relacje świadomości strategicznej i planowania operacyjnego z raportowaniem dokonań, zakresem czynności kontrolnych, przepływem informacji pokontrolnych i oceną menedżerską.

**Metodologia.** Wyniki zaprezentowane w artykule pochodzą z badania ankietowego obejmującego 179 polskich przedsiębiorstw. W badaniach zastosowano podejście bazujące na eksploracji treści otwartych odpowiedzi na pytania ujęte w ankiecie z analizą ilościową odpowiedzi na pytania zamknięte.

**Kluczowe wnioski.** Przeprowadzona eksploracja tekstu wskazała na częściowe delegowanie działań sprawozdawczych na poziom ośrodków odpowiedzialności. Zaobserwowano również włączenie kontroli w proces doskonalenia organizacji oraz istotną rolę spotkań korporacyjnych w procesie informowania o dokonaniach jednostki. Niemniej pozytywne rezultaty wymienionych działań osiąga zaledwie co piąte polskie przedsiębiorstwo, które włącza swoich pracowników w proces planowania.

**Słowa kluczowe:** analiza narratywna, pracownicy, przepływy informacji zarządczych.