



Structural manipulation as part of impression management in the president's letters to shareholders of the biggest Polish enterprises

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Abstract

The purpose of this article is to examine the extent to which company managers use structural manipulations to manage users' impressions of information presented in the president's letters to shareholders. It is based on the managers' knowledge of how cognitive-behavioral factors influence people's perception and processing of information. The article focuses on selected cognitive errors connected with the effect of information order, such as the primacy effect and the recency effect, and the halo effect, which can be used by enterprises for structural manipulation in their letters to their shareholders. The research method used was an analysis of source documents which constituted elements of reporting that were created and published by Polish enterprises. The quantitative and qualitative research was preceded by a review of the literature, mainly regarding the strategies of impression management, in particular, structural manipulation. Analysis of publications that present research results on using impression management was used to formulate the research questions: (1) Do the largest Polish enterprises use structural manipulation based on cognitive error mechanisms? (2) Does the use of cognitive error mechanisms, which are typical of structural manipulation, depend on the financial condition of the enterprise in a given period? The presented research results confirm that the management boards of Polish companies do turn to techniques of impression management, especially structural manipulation. Additionally, they indicate that a correlation exists between the scope and degree of employing structural manipulation in reporting and the results achieved in a reporting year. However, the strength and depth of this relationship is not clear and requires further research.

Keywords: impression management, belief adjustment model, information order, the primacy effect and the recency effect, the halo effect, behavioral accounting.

Streszczenie

Manipulacja strukturalna jako element zarządzania wrażeniem w listach zarządu do akcjonariuszy największych polskich przedsiębiorstw

Celem artykułu jest zbadanie zakresu wykorzystania przez zarządzających przedsiębiorstwem manipulowania strukturalnego dla zarządzania wrażeniem użytkowników informacji zawartych w listach zarządu do akcjonariuszy, opartego na znajomości zarządzających specyfiki oddziaływania czynników behawioralnych

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o charakterze kognitywnym na przetwarzanie i percepcję informacji przez ludzi. W artykule skupiono uwagę na wybranych błędach poznawczych związanych z efektem porządku informacji, takich jak: efekt pierwszeństwa oraz efekt świeżości, a także efekt aureoli, które jednostki gospodarcze mogą wykorzystać do manipulowania strukturalnego. Metodami badawczymi wykorzystanymi w pracy była analiza dokumentów źródłowych stanowiących elementy sprawozdawczości tworzonej i publikowanej przez polskie przedsiębiorstwa. Badania ilościowo-jakościowe zostały poprzedzone przeglądem literatury dotyczącej strategii zarządzania wrażeniem, w szczególności manipulacji strukturalnej. Analiza publikacji prezentujących wyniki badań nad stosowaniem zarządzania wrażeniem pozwoliła na sformułowanie dwóch pytań badawczych: (1) Czy największe polskie przedsiębiorstwa stosują manipulacje strukturalne, bazujące na mechanizmach błędów poznawczych? (2) Czy stosowanie mechanizmów błędów poznawczych właściwych dla manipulowania strukturalnego zależy od stanu finansowego przedsiębiorstwa w danym okresie? Zaprezentowane wyniki badań potwierdzają, iż zarządy polskich przedsiębiorstw sięgają po techniki zarządzania wrażeniem, zwłaszcza po manipulowanie strukturalne. Ponadto wskazują, iż istnieje zależność między zakresem i stopniem stosowania manipulacji strukturalnej w sprawozdawczości a wynikami uzyskiwanymi w roku sprawozdawczym. Jednak siła i głębokość tej relacji nie jest jasna i wymaga dalszych badań.

Słowa kluczowe: manipulacja strukturalna, zarządzanie wrażeniem, model dostosowania przekonań, porządek informacji, efekt pierwszeństwa i efekt świeżości, efekt aureoli, rachunkowość behawioralna.

Introduction

One of the channels used by enterprises to communicate with stakeholders is external reporting, which allows them to present their performance in a given period. To gain stakeholders' approval for the achieved results, it is especially important to present the information on performance in the appropriate light.

The reception of information presented by business units, and thus the behavior of stakeholders, is influenced by the cognitive abilities of users of financial statements, related in particular to the processing of information for the purposes of a given situation, including perception, reasoning, memory, or attention (Jaworska, 2015). Cognitive psychology explains how cognitive processes shape a person's activities. Behavioral accounting draws from the findings of cognitive psychology; its research includes searching for ways to use accounting to influence behaviors, a method of predicting human behaviors, and strategies to change them (Woro Damayanti, 2014).

Formulating judgments is a complex cognitive process. It is connected with processing both new incoming information and the information already possessed by retrieving it from long-term memory. The accuracy of information recall from memory might, however, change depending on the positioning of information in a text. While preparing the descriptive parts of annual reports, managers can present information in a way that will allow them to achieve the desired direction of interpretation of that information by the stakeholders.

The purpose of this article is to examine the extent to which company managers use structural manipulations to manage users' impression of information presented in the president's letters to shareholders. It is based on the managers' knowledge of how

cognitive-behavioral factors influence people's perception and processing of information. Cognitive-behavioral factors can influence a person's judgment, including their ongoing assessment of information, and their opinions, estimates, and decisions. This is due to the fact that the stakeholders' interpretations of information presented by an enterprise are often based on mental shortcuts. While facilitating decision-making, these can lead to cognitive errors, and thus to improper conclusions and behaviors.

The article focuses on selected cognitive errors connected with the effect of information order, such as the primacy effect, the recency effect, and the halo effect, all of which can be used by enterprises for structural manipulation in letters to their stakeholders.

For the purposes of this article, the following research tasks were formulated:

- 1) to present the theoretical issues concerning information processing in the context of memory, and cognitive errors and tendencies that might disturb this process, with particular emphasis on the serial-position effect and the belief-adjustment model, as well as impression management, including the information order strategy,
- 2) to verify whether the biggest Polish enterprises use impression management based on cognitive error mechanisms and proper structural manipulation.

The research method used here was an analysis of source documents that constitute elements of reporting that are created and published by Polish enterprises.

The quantitative and qualitative research was preceded by a review of the literature, mainly regarding the strategies of impression management, in particular, regarding structural manipulation. Analysis of publications presenting research results regarding the use of impression management was used to formulate the research questions.

- **RQ1:** Do the largest Polish enterprises use structural manipulation based on cognitive error mechanisms?

and if so, then

- **RQ2:** Does the use of cognitive error mechanisms which are specific to structural manipulation depend on the financial condition of the enterprise in a given period?

Affirmative answers to the research questions will allow the verification of the hypothesis related to the use of structural manipulation in the studied letters to shareholders which are part of the published annual reports:

- H1:** Enterprises in good financial condition will use mechanisms of structural manipulation in their letter to shareholders more often than enterprises in bad financial condition.

An additional conclusion from the review of the literature is the observation that research on Polish enterprises regarding the area in question is scarce, and thus, this study will contribute to filling this research gap.

1. Human information processing in the context of impression management

The reception, processing, and use of information in order to judge and make decisions are influenced by a person's mental processes, as they receive and understand the world around them in various ways. This is the subject matter of cognitive psychology, which studies basic and complex cognitive processes and structures, as well as the general principles of the functioning of the mind (Nęcka et al., 2006). Elementary human cognitive processes include, for example, attention, perception, and memory, whereas complex ones include thinking, problem-solving, decision-making, and language use. Cognitive structures, on the other hand, include, elements of knowledge, judgments, convictions, and cognitive schemata, among others (Nęcka et al., 2006). It should be noted, however, that numerous factors exist which distort human cognitive abilities, such as people's limited abilities to process information (e.g., memory capacity), the economization of cognitive effort while performing mental tasks, and the influence of emotion, motivation, or time pressure (Baron, 1998).

From the perspective of accountancy, cognitive processes are especially important. On the one hand, human behavior influences the shape of information created within accountancy, while on the other hand, the informational content of accountancy messages influences its recipients, their opinions, and decisions (Kiziukiewicz, Jaworska, 2017). Thus, the entire process, from its inception to the application and interpretation of accountancy information, is under the influence of human judgments and decisions (Hellmann, 2016). The influence of cognitive processes on judgments within accountancy has been emphasized in the research of accountancy by Brinberg and Shields (1984), Libby (1981), and Trotman et al. (2011), in the area of management accounting by Brinberg, Luft, Shields (2006), Luft, Shields (2010), and Ding, Hellman, De Mello (2017), and in the area of auditing by, e.g., Brazel et al. (2013).

1.1. Memory errors and information processing for the purposes of formulating judgments

A person's ability to record (code), store, and reproduce stimuli (information), for which memory is responsible, is essential (Brinberg et al., 2006; Tulving, 1995) in the formulation of judgments and the making of decisions.

Human memory can be considered in two ways – as structures or as processes (Jagodzińska, 2008). In the first approach, connected with the time of information storage, we can distinguish sensory memory, short-term memory (STM), and long-term memory (LTM) (Jagodzińska, 2008; Nęcka et al., 2006; Brinberg, Shields, 1984). Their characteristics are presented in Table 1.

Table 1. The characteristics of information-storing structures in human memory

Memory system	Characteristic
Sensory memory	Sensory information is provided by the human senses. Sensory memory is ultra-short, located in each sense (sight – iconic memory, hearing – echoic memory). Image or sound is stored from milliseconds to a few seconds, and then it gradually weakens and disappears entirely. Both visual and auditory memory store raw sensory data and enable further processing of a stimulus when it is no longer active. Attention processes are responsible for transferring information from sensory to short-term memory.
Short-term memory	Short-term memory (operational memory) is a complex system of processes controlling and coordinating the processing and storage of information while performing cognitive operations. This memory has a limited capacity. It can store 7 ± 2 (Miller, 1956) or 4 ± 1 (Cowan, 2001) items of information. If the information is not rehearsed, it will be forgotten over time. Short-term and long-term memories are connected with each other. STM uses the knowledge and skills stored in LTM, and also plays a role in coding new experiences in LTM.
Long-term memory	Long-term memory contains information assimilated by the ultra-short and short-term memory. It stores unlimited amounts of information for a very long, unlimited time. It serves as storage for information or experience, i.e., it accumulates knowledge.

Source: own study based on Jagodzińska (2008),
 Nęcka et al. (2006), Brinberg, Shields (1984).

People function in an environment that is over-saturated with information, and they are incapable of processing all of it. For this purpose, memory is used, adjusted to store information for varying periods of time. From Table 1, it can be seen that in accordance with memory structures, information is initially received by sensory memory, and the organs of sensory perception can store information very briefly. Next, the information is encoded and stored temporarily in STM. The STM storage can contain not only information from the sensory memory, but also information retrieved from LTM and information connected with ongoing information processing (Nęcka et al., 2006). STM stores the information necessary to perform the tasks at hand, and it also develops content to be remembered permanently (Jagodzińska, 2008). Owing to rehearsal and further encoding, information stored in STM can be transferred to LTM. Rehearsing information enables it to be permanently recorded in LTM. If need be, information stored in LTM can be retrieved (Brinberg, Shields, 1984; Nęcka et al., 2006).

The process approach to memory does not perceive memory as a system or storage; instead, it focuses on memory from the perspective of information coding, and processing and retrieving information from memory. It is connected with aspects such as the kind of information processed, the direction of processing information, and the sort of information processing (Jagodzińska, 2008).

The human memory system affects both newly encoded information and past information that is retrieved from the memory. However, human memory is sometimes unreliable. For this reason, it can be influenced by various cognitive disturbances. This results from its impermanence, a person's distraction, and cognitive biases (Zimbardo, 2010).

In the processing of information for the purposes of formulating judgments and making decisions, it is important to account for the specificity of memory as well as for cognitive tendencies and errors connected with the memory's operation. These issues are analyzed in the research of Ding et al. (2017), where the authors consider the relationships between formulating judgments and the memory from the perspective of memory biases and errors. As has been mentioned, memory processes include encoding information and storing and retrieving information from LTM, which corresponds to different phases of memory, such as remembering, storing, and retrieval (Jagodzińska, 2008).

Introducing raw information into the memory, or comparing it to the information already stored, requires transformation, i.e., the encoding of the information. This is necessary for its further storage and retrieval from memory. Processing information related to its encoding uses various sensory and semantic analyses based on perception and focus (Jagodzińska, 2008). Because of this, while formulating judgments and making decisions, people may be susceptible to various kinds of errors and tendencies of memory. The encoding of information can be disturbed due to the limited capacity of memory or to cognitive disturbances.

Users of corporate narrative documents process a lot of information presented by enterprises in their reports. Therefore, they can be influenced by various cognitive biases. According to Ding et al. (2017), factors which can result in errors at the stage of information encoding, as well as during its storage and retrieval, include selective attention, the salience effect (perceptual salience), the passage of time, the availability heuristic or the anchoring and adjustment heuristic, the serial position effect (the order effect), and the halo effect.

Selective attention and the salience effect are connected with the recipient's limited attention and capacity to process information due to, for instance, the use of different types, sizes, and colors of fonts, or different ways of formatting the report (e.g., graphic, tabular, textual). Thus, the disclosures presented in company reports can be manipulated by the people preparing the accounting information. They can increase the attractiveness of certain content and divert attention away from other information (Hirshleifer, Teoh, 2003; Courtis, 2004; Merkl-Davies, Brennan, 2004, 2007, 2017). Moreover, due to information overload, a person is not able to process all the incoming information but only a part of it. This is because there are too many incoming stimuli. For the purposes of formulating judgments, one should, therefore, reduce the stimuli and focus on essential information. Encoding information can be burdened with errors, because due to information overload and time pressure, there may be a conflict of stimuli (Ding et al., 2017; Pietsch, Messier Jr, 2017).

In connection with information storage, the passage of time also has a negative impact on memory, since if a piece of information is not rehearsed, it can be forgotten as a result of trace decay (Schacter, 2003).

For the purposes of formulating judgments and making decisions, the remembered information is retrieved from memory. Retrieval includes recall, i.e., remembering the recorded information, getting access to a given piece of information (independent or cue-dependent) (Necka et al., 2006), and recognition, which involves distinguishing a familiar element from new ones (Jagodzińska, 2007). Ding et al. (2017) emphasize that information originally processed may differ in quantity or quality from the information being retrieved from memory. The process of retrieving information from memory can be burdened with various tendencies and errors (Brinberg, 2011). In the context of accounting, among the factors disturbing the process of recall are the heuristics of availability and the serial position effect (Ding et al., 2017), connected with the heuristics of anchoring and adjustment (Hogarth, Einhorn, 1992).

Heuristics are strategies of simplification which help people to manage information and reduce uncertainty in decision-making (Tversky, Kahneman, 1973). They have a significant impact on the subjective assessment of values and the probability of events (Badowska-Batorowicz, ed., 2012). However, heuristics can also be responsible for the formation of fallacies and biases (Necka et al., 2006). The heuristics of availability assumes that when extracting information from memory, a person is guided by premises or elements of knowledge that are available and easy to extract, and he ignores those that are difficult to access. Incidents that are more readily available are, therefore, rated as being more likely or more frequent (Tversky, Kahneman, 1974; Maruszewski, 2001; Necka et al., 2006; Gerring, Zimbardo, 2009). The heuristics of anchoring consists in the fact that people change their estimates of unknown (probable) values (of a certain event or effect) depending on the initial values they were given (Tversky, Kahneman, 1974; Maruszewski, 2001; Necka et al., 2006; Gerring, Zimbardo, 2009). From the perspective of users of accounting information, heuristics may influence the assessment of current information, the choice between possible courses of action, forecasting future results, or the assessment and review of the probability of a specific result (Luppe, Fávero, 2012).

Another memory error based on the heuristics of anchoring and adjustment is the serial position effect, also known as the order effect. It is usually easier for people to recall the initial and final part of information rather than the middle (Hogarth and Einhorn, 1992). The order effect consists of two elements: the primacy effect and the recency effect.

The primacy effect means that the information received first can impact a person's perception to a greater extent than later information (Murphy et al., 2006). This means that the information obtained at the beginning will have more influence on a person's behavior, judgments, and decisions than information received later.

The recency effect, on the other hand, means that the most recent information is better remembered than earlier information (Trotman, Wright, 1996, 2000). In relation to this, the freshest information (received last) will most influence a person's perception, and thus their opinions and decisions.

Formulating judgments and making decisions in accounting is a sequential process of people (accountants, auditors, stakeholders, and investors) acquiring and assessing evidence (information) (Ding et al., 2017). From the perspective of the specificity of the serial-position effect, it should be noted that the order of acquiring information may impact both how precisely it is retrieved from memory and, consequently, the judgments and decisions made, which might not be optimal. The serial-position effect influences the belief revision of the people issuing judgments and making decisions, which will be discussed later in this article.

Moreover, it is worth noting that the encoding of the first piece of information (stimulus) may influence the encoding of subsequent ones and, consequently, it may influence the formulated opinions. The first impression can also influence a person's judgment. One of the errors resulting from the tendency to anchor and adjust is the so-called halo effect. This is a tendency to extend a previously noticed significant (positive) quality to other, unobserved features. This means that initial information can alter the meaning of information coming later (Kahneman, 2011). In this case, the order of presenting information is, thus, important.

1.2. The belief-adjustment model

The model of coding and processing information is linked to Hogarth and Einhorn's (1992) belief-adjustment model. This model assumes that people form beliefs and subsequently adjust them on the basis of incoming information in order to form new beliefs. In this model, a person's final opinion may depend on the order in which the information is received and evaluated (Trotman, Wright, 1996).

Research on the belief-adjustment model is presented not only in the literature on psychology but also in the literature on behavioral accounting. The areas of research on the impact of the "serial-position effect" on judgements and decision-making in accounting include, among others, correction of beliefs by:

- 1) auditors (Ashton, Ashton, 1988; Trotman, Wright, 1996; Bamber et al., 1997; Guiral-Contreras et al., 2007; Hammersley et al., 2010; Yankova, 2014);
- 2) tax specialists (Pei et al., 1990, 1992);
- 3) users of information from financial reports (e.g., Baird, Zelin, 2000; Pinsker, 2004, 2007, 2011; Daigle et al. 2015; Theis et al., 2012, Kahle et al., 2005; Guiral-Contreras et al., 2007).

The belief-adjustment model assumes an interaction between information processing strategies during the formulation of judgments and certain qualities of the task (information) (Hogarth, Einhorn, 1992). The possibility of the occurrence of the primacy effect or the recency effect, or the non-occurrence of the serial-position effect, depends on various factors (Baird, Zelin, 2000), whose characteristics are presented in Table 2.

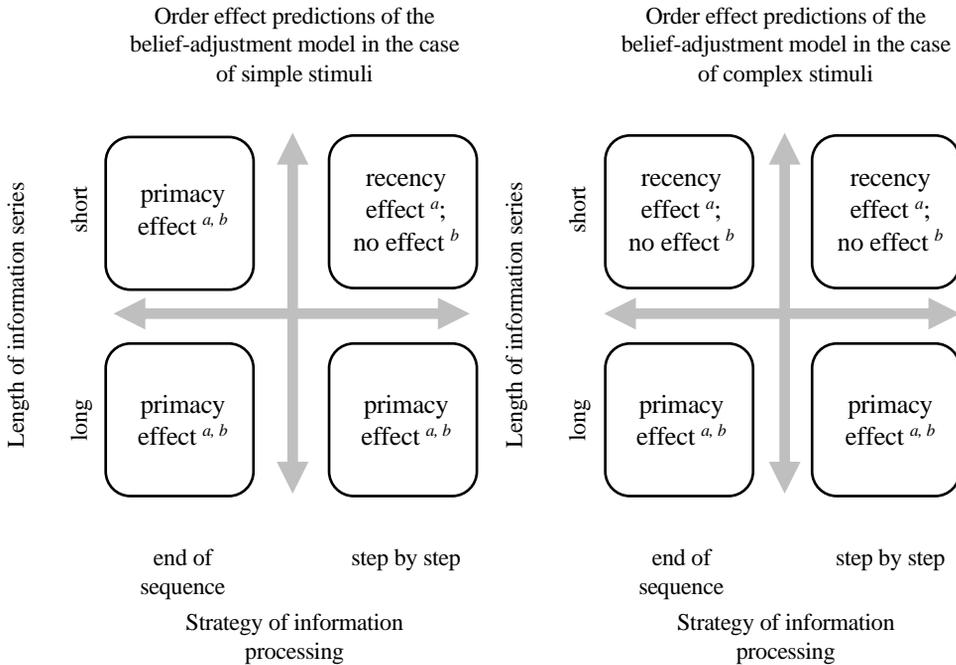
Table 2. Factors determining serial-position effects in the belief-adjustment model and their features

Factors	Characteristic
Complexity of information/task	Complexity refers to a person's ability to process information. Excessive information complexity may result in cognitive errors caused by the use of mental shortcuts. Information is considered: <ul style="list-style-type: none"> – complex (complex information stimuli) if there is a large amount of information or the stimuli/tasks are not known to the decision-maker, – simple (simple information stimuli) if there is a small amount of information and the tasks are known.
Length of the series of information	The length of the series concerns the amount of evidence to be assessed. A series can be: <ul style="list-style-type: none"> – short (12 items or fewer), – long (more than 12 items).
Type of elements of information	A set of information can be: <ul style="list-style-type: none"> – consistent, if all information items are positive or all are negative, – mixed, if it contains both positive and negative elements.
Strategy of information processing (the response mode employed to process the information)	The information processing mode may depend on whether the reaction is an estimation (assessment of probability) or an evaluation (e.g., to like or to dislike). An opinion may be expressed: <ul style="list-style-type: none"> – when all the information is received (end of sequence), the so-called simultaneous procedure, – After each item (step by step), the so-called sequential procedure.

Source: own study based on Hogarth, Einhorn (1992), Baird, Zelin (2000), Kahle et al. (2005), Theis et al. (2012).

Based on the information contained in Table 2, it can be noted that the serial-position effect may occur as a result of an interaction between the complexity of the stimuli, the length of the series of information/task, the type of evidence, and the strategies of information processing (the response mode employed). Matrixes of order effect predictions of the belief-adjustment model from simple and complex stimuli are presented in Figure 1. It should be emphasized that in the case of accounting, these predictions refer to evaluation-type tasks. There are no instances of research on estimation-type tasks (Kahle et al., 2005).

Figure 1. Matrixes of order effect predictions of the belief-adjustment model in the cases of simple and complex stimuli



^a for mixed information set,

^b for consistent information set

Source: own study based on Baird, Zelin (2000).

In Figure 1, it can be seen that the primacy effect can be expected in the case of:

- a long series of information, both if items are simple or complex, whether the set is consistent or mixed, and if the response mode is either end-of-sequence or step-by-step,
- a short series of information if the set is consistent or mixed, but the items can only be simple, and the end-of-sequence mode is employed.

The recency effect, on the other hand, is expected when there is an interaction of:

- simple items, short series of information, mixed information sets, and with the use of the step-by-step procedure,
- complex information, short series of information, or a mixed information set with the use of the sequential (step-by-step) or simultaneous (end-of-sequence) processing procedure.

The research conducted by Baird and Zelin (2000), Elliott (2006), Pinsky (2004, 2007, 2014), and Theis et al. (2012) confirms that the order in which positive and

negative information about an enterprise is presented by the management in external reports influences the judgments of the users of those reports, and thus their assessment of the financial situation of the enterprise and its prospects of development. Depending on the order of presenting the information for formulating judgments and making decisions, the users of information would succumb to either the primacy or the recency effect. Most often, the assessments are overly optimistic. The opinions formulated on their basis and the decisions made can therefore be prone to errors.

The belief-adjustment model is extremely significant from the perspective of the users of information about the enterprise presented in, among others, financial reports, reports, or letters to stakeholders. Barid and Zelin (2000) emphasize that the management of an enterprise can use the belief-adjustment model as a tool in planning communication with the stakeholders, which will be discussed further in the article.

1.3. Using the serial-position effect for the purposes of impression management

Knowledge of how memory and belief adjustment work in relation to the influx of new information allows business managers to shape the perception of their stakeholders. Impression management in external reporting refers to the managers' control and modification of the description of information presented in financial reports or in letters to stakeholders to manipulate the perceptions and decisions of stakeholders (Merkl-Davies, Brennan, 2007; Wang, 2016). Therefore, the selection of information about the business's achievements and presenting it is important and affects the perception of the users of those reports (Neu et al., 1998; Brennan et al., 2009).

Businesses can manage impressions when reporting by manipulating how information is presented or the scope of the information that is revealed. They can use various strategies to this end, such as rhetoric or thematic manipulation, visual and structural manipulation, manipulating readability, comparing results and selecting which results to present, or the use of attribution (Brennan et al., 2013; Merkl-Davies, Brennan, 2007, 2011, 2017; Jaworska, Bucior, 2017, 2018).

Taking into account the cognitive bias mechanisms discussed in the first part of the article, within the ways of presenting information with the use of visual and structural strategies, Merkl-Davies and Brennan (2007) distinguish the following techniques of manipulation (emphasis) for the purposes of impression management: (1) repetition, (2) reinforcement, (3) visual emphasis, and (4) ordering of information. Their characteristics are presented in Table 3.

Table 3. Characteristic of the impression manipulation technique within the strategy concerning the ways of presenting information

Types of emphasis	Characteristic
Repetition	Human memory is unreliable. Thus, repeating information can, on the one hand, facilitate understanding of a given issue and preserving information in memory, but on the other hand, it can cause distraction, information overload, and information noise.
Reinforcement	Reinforcement is connected with emphasizing information with the use of a qualifier (e.g. <i>dynamic</i> growth, where dynamic is the qualifie).
Visual	People have limited information processing capabilities, including selective attention. It means that users of company reports allocate limited attention to selected information and tasks to formulate judgments and solve problems effectively. For this reason, managers can intentionally emphasize information that is important and desirable from the perspective of the enterprise. Visual emphasis is connected with using many visual effects in order to draw the stakeholders' attention to particular information, increasing the readability (recognition) of those items in the text through, e.g., underlining, the style and size of the font, bullet points, bold type, or the introduction of color.
Ordering of information	The availability of information in the memory as well as the adopted reference point affect the judgments and decisions made by users of information presented in companies' external reports. Thus, the order of information or its physical location serve to direct the readers' attention to or distract it from particular information. This may be caused by availability heuristics, as well as anchoring and adjustments heuristics, including the primacy effect, recency effect, or the halo effect. It means that the order in which information is presented can affect the judgments and decisions made by the users of letters to shareholders.

Source: own study based on Merkl-Davies, Brennan (2007), Courtis (2004), Hellmann et al. (2017), Baird, Zelin (2000), Bowen et al. (2005), Elliott (2006), Marshall, Kidd (1981), Kahneman (2011), Legg, Sweeny (2014).

As shown in Table 3, how information is presented as well as its placement in the text is significant for how it is perceived. The presented techniques of impression management connected with visual and structural manipulation use the occurrence of errors and tendencies of used memory in connection with information processing to formulate judgments and make decisions.

In this article, the authors concentrate on structural manipulation. From the perspective of impression management, it is important in what order the good (opportunities) and bad (threats) data about the business are presented, because they can lead to different judgments and different decisions based on the same information but presented elsewhere in the report.

2. Research method

The specifics of cognitive errors allow their mechanisms to be used to shape the impressions of the users of the information contained in financial reports and letters from management to stakeholders. Therefore, in the next part of the article, we analyze the managers' use of structural manipulation for impression management based on their knowledge of how the order of information influences users' revision of beliefs regarding the information contained in reports.

When preparing letters to stakeholders, the management carefully selects the information to be included. These letters can contain simple or complex information sets of information/tasks. Digesting the information entails different cognitive efforts on the part of the recipients, and thus, there is the possibility of it being susceptible to cognitive errors. These documents can be short or long, which can have an impact on memory and the information processing connected with it. It may turn out that erroneous opinions will be formulated because when coding the information from the letters to shareholders, there will be disturbances in its storage in memory and extraction from LTM. Moreover, management can decide whether the set of information in a letter to stakeholders will be consistent or mixed, which also influences the reception and assessment of the information. While preparing the letters to stakeholders, the management has no influence over the information processing strategy (end-of-sequence or step-by-step) chosen by the recipients. It does not know whether the recipient will form opinions while reading the information item by item, or after having read the entire text.

For this reason, it can be assumed that in order to consciously control the users' perception, managers could present the good (positive) information at the beginning and at the end of the letter, to protect themselves in case of either the primacy or recency effect. Taking into account the specifics of the serial-position effect, these sections are better remembered than information items located in the middle. This means that negative information, presenting the worst results, should be placed in the middle of the text, when the focus of attention is weaker. Presenting positive information at the beginning can also have a greater impact on the recipients' perceptions than presenting it at the end, which can be connected with the halo effect, i.e., bad information is not perceived as overly negative when delivered against the background of good information. The first impression can have a bigger impact than the final one (Kahneman, 2011).

To empirically verify the research question and to test whether the hypotheses which were formulated based on the literature analysis are confirmed, a mixed quantitative-qualitative approach was employed, which is commonly used in economics (Miles, Huberman, 1994). The aim of this approach was to obtain results which could be generalized and get a broad picture of the studied phenomena (Firestone, 1987).

2.1. Principles of data selection for analysis

The research was based on an analysis of source documents containing the president's letters to shareholders. The contents that were interesting to the authors were those which could potentially contain elements of structural manipulation and which were located in the descriptive sections of financial reports prepared by Polish companies. It was important to determine the range of documents to be analyzed. The basic corpus consisted of annual reports created by enterprises due to the implementation of statutory duties. Polish accounting law imposes reporting obligations on companies, which involves the annual creation, confirmation, and public disclosure of:

- a financial statement comprising the balance sheet, profit and loss account, and the notes to financial statements,
- business reports containing material information on the assets and financial situation, including an assessment of the results and an indication of the risk factors and a description of the risks.

Additionally, some larger businesses are obliged to conduct non-financial reporting, which includes information on the practices used by the business in relation to the key issues connected with social responsibility and sustainable development (Krasodomska, 2015).

The structure of the financial statement indicates that most information included in the annual report is financial and is based mostly on numerical values. However, it should be remembered that the regulations determine only the minimum obligatory layout and scope of information while leaving companies complete freedom to shape additional content in their reports. Research shows that companies gradually expand the scope of information presented in annual reports, and even enterprises not obligated to conduct non-financial reporting include descriptive elements in their statements which are often evaluative and subjective (Kostrzewa, 2014; Macuda et al., 2015). Thus, Polish companies model themselves on companies from developed countries, where the management board statements (usually referred to as a letter to the management board or to shareholders) are descriptive and marked by a high degree of subjectivity, and are a standard element of the annual report (Abrahamson, Amir, 1996). This is also indicated by the analysis of the content of the reports, which allows us to formulate the conclusion that the practice of adding a management letter to the annual report has become established among large Polish enterprises, although it is not a part of the annual report required by the regulations. This is also confirmed by the following research, because it turns out that in the 92 analyzed annual reports of the biggest Polish companies, letters were included in 72 of them, either as a separate item or included in the performance report. Almost all letters contained a set of assessments based on both objective and subjective premises, and they were mainly numerical data describing both corporate categories (revenues, costs, results, and profitability), and macroeconomic parameters.

Most research on impression management presented in the international literature was based on letters from management, and in the authors' assessment, such a source database is also appropriate for Polish companies (Clapham, Schwenk, 1991; Clatworthy, Jones, 2003). A problem in collecting data for analysis occurred in cases when there was no letter in the annual report, or it had such poor content that it could not be assessed. In such cases, the authors referred to the report on the operations of the Management Board, believing that the content they were interested in should be in that particular element of the annual report. Since a report on the operations contains a wide range of information, it was necessary, in each case, to prepare an extract from this document in order to obtain an equivalent of a letter from the management.

The procedure of acquiring the data for the study was as follows:

- a) the analysis included the president's letters to shareholders which were part of the annual reports of companies ranked as the largest Polish enterprises according to Wprost (2019);
- b) in cases when the annual report did not contain such a letter, the analysis concerned a fragment of the annual report, which is an obligatory element of reporting of capital companies; the selection of the excerpt was subjective, and the authors were guided by the important and significant similarity of certain parts of the report to the usual content of a board letter; in the absence of such similarity, the company was omitted in the analysis;
- c) the authors set the goal of obtaining 88 letters (or their equivalents), and it was necessary to analyze 92 entities to achieve this number of documents;
- d) the companies' websites were the primary source of the annual reports;
- e) if a company did not publish a report online, the authors referred to the repository of financial statements kept by the Ministry of Justice (2019);
- f) if a company did not publish a report online and did not have or did not fulfill the obligation to submit a report to the repository maintained by the Ministry of Justice, it was omitted from the analysis.

The results of the selection of letters are presented in Table 4.

Table 4. Companies covered by the analysis of reports

Company's id	Company's name	L/E*	Company's id	Company's name	L/E*
01	PKN ORLEN SA	L	45	SM MLEKPOL	E
02	POLSKIE GÓRNICTWO NAFTOWE GAZOWNICTWO SA	L	46	ANWIM SA	E
03	PZU SA	L	47	UNIMOT SA	L
04	GRUPA LOTOS SA	L	48	GETIN NOBLE BANK SA	L
05	PGE SA	L	49	ONICO SA	L

Table 4. (cont.)

Company's id	Company's name	L/E*	Company's id	Company's name	L/E*
06	KGHM POLSKA MIEDŹ SA	L	50	POENERGIA SA	L
07	TAURON SA	L	51	GRUPA KĘTY SA	L
08	CINKCIARZ.PL SP. Z O.O.	E	52	ITAKA HOLDING	E
09	PKO BP	L	53	AMICA WRONKI SA	L
10	ENEA SA	L	54	GRUPA AZOTY ZAKŁADY CHEMICZNE POLICE SA	L
11	ENERGA SA	L	55	EMPERIA HOLDING SA	L
12	PSH LEWIATAN	E	56	GRUPA POLSKIE SKŁADY BUDOWLANE SA	L
13	CYFROWY POLSAT SA	L	57	ZE PAK SA	L
14	GRUPA AZOTY SA	L	58	POLIMEX-MOSTOSTAL SA	E
15	PPHU SPECJAŁ SP. Z O.O.	E	59	GRUPA IMPEL SA	L
16	JSW SA	L	60	POLPHARMA SA	L
17	PEKAO SA	L	61	WORK SERVICE SA	L
18	AB SA	L	62	KOMPUTRONIK SA	L
19	POLSKA GRUPA GÓRNICZA SP. Z O.O.	E	63	PBG SA	L
20	POLSKIE SIECI ELEKTROENERGETYCZNE SA	L	64	RAFAKO SA	L
21	ASSECO POLAND SA	L	65	LW BOGDANKA SA	L
22	NEUCA SA	L	66	ACTION SA	L
23	LPP SA	L	67	TELEWIZJA POLSKA SA	L
24	INTER CARS SA	L	68	UNIBEP SA	L
25	BORYSZEW SA	L	69	WIELTON SA	L
26	FARMACOL SA	E	70	GETIN HOLDING SA	L
27	POCZTA POLSKA SA	L	71	KONSORCJUM STALI SA	L

Table 4. (cont.)

Company's id	Company's name	L/E*	Company's id	Company's name	L/E*
28	TOTALIZATOR SPORTOWY SP. Z O.O.	E	72	GRUPA NOWY STYL SP. Z O.O.	L
29	PKP POLSKIE LINIE KOLEJOWE SA	L	73	FAMUR SA	L
30	SYNTHOS SA	L	74	ALUMETAL SA	L
31	POLSKA GRUPA FARMACEUTYCZA	L	75	NETIA SA	L
32	POLSKA GRUPA ZBROJENIOWA SA	E	76	ZM HENRYK KANIA SA	L
33	PLL LOT SA	E	77	RAINBOW TOURS SA	L
34	PKP CARGO SA	L	78	ELEMENTAL HOLDING SA	L
35	ABC DATA SA	E	79	BOWIM SA	L
36	DINO POLSKA SA	L	80	MPWIK SA	L
37	ALIOR BANK SA	L	81	SELENA FM SA	E
38	GRUPA MASPEX	E	82	AGORA SA	L
39	GRUPA MLEKOVITA	E	83	GRUPA ADAMED	L
40	CCC SA	L	84	COMARCH SA	L
41	CIECH SA	L	85	FABRYKA MEBLI FORTE SA	L
42	STALPRODUKT SA	L	86	IDEA BANK SA	L
43	GRUPA AZOTY ZAKŁADY AZOTOWE PUŁAWY SA	L	87	KRUK SA	L
44	IMPEXMETAL SA	L	88	CENTRUM NOWOCZESNYCH TECHNOLOGII SA	L

* L – letter to the shareholders, E – LS equivalent.

Source: own study.

2.2. Method of document analysis

The analysis of documents consisted of marking in the collected documents those words and phrases which the authors considered might express good or bad news. Due to the intent to verify whether the three effects of structural manipulation were used

(primacy effect, recency effect, halo effect), it was important in the process of marking the documents to place the good/bad news in the structure of the document. The authors created a list of codes which described the character of the analyzed message:

- GN1 – good news at the beginning of the document,
- BN1 – bad news at the beginning of the document,
- GN2 – good news in the middle of the document,
- BN2 – bad news in the middle of the document,
- GN3 – good news at the end of the document,
- BN3 – bad news at the end of the document.

Identifying any of the codes in a studied document meant that the Management Board had used structural manipulation with the use of either primacy or recency effect. Recognizing the halo effect required an assessment on the part of the researcher and concerned documents in which at least two codes were detected.

The process of marking the documents with codes had two stages. The first stage was completed by a computer program specially designed for this purpose and characterized by the following features:

- the source of the program was written in Object Pascal language and compiled in the Emacadero RAD Studio 10.2 development environment,
- the structure and form of the code was an independent solution and contained a text search algorithm based on defined text matrices in which cells contained words and phrases,
- the program used the Knuth-Morris-Pratt algorithm according to the scheme described by Wróblewski (1996),
- from the outset, the program required that the analyzed text be downloaded in the ASCII format. Therefore, the collected documents had to be converted from PDFs into text files, which was done with the use of Nitro Pro 12,
- the resulting modified text contained the identified codes in a visual form (different colors for each code) thanks to the use of the Rich Text Format, which significantly improved the authors' work in the second stage of the document analysis,
- after the program had run its course, apart from codes in the text of the documents, statistical data on the examined documents were obtained, such as the number of characters, words, and sentences.

In the second stage of the data analysis, the authors reviewed the processed and modified documents. This allowed them to verify the correctness of the automatic coding performed by the program, correcting code identification if necessary, and marking the potential occurrence of the halo effect.

3. Results and discussion

The analysis of the collected and processed data, which was carried out according to the methodology and technique described in the previous part of the article, allows an affirmative answer to research question number 1 (RQ1). The vast majority of the analyzed documents contained content presented in a way that can be considered to be structural manipulation. This is evidenced by the recognition of codes in all cases during the two-stage document analysis. A rule can also be observed that the codes appear with more frequency in the letters from the management boards than in their equivalents prepared by the authors on the basis of operation reports. This can be explained by the fact that the letters are created for a clearly defined set of readers, mainly external ones, such as shareholders, partners, or lenders. The reports on the operations of the Management Board, on the other hand, are much more formal, which results from the necessity to fulfill statutory obligations.

The results of our research confirm that all the analyzed enterprises, both those in good and poor financial conditions, emphasize positive information in the letters to shareholders, which is in line with the results of research by, e.g., Clatworthy, Jones (2003), Bowen et al. (2005) and Merkl-Davies, Brennan (2007). As already mentioned, in structural manipulation, the positioning of information in the text is important. The research conducted by Barid and Zelin (2000), Theis et al. (2012), Elliott (2006), Pinsker (2004, 2007, 2014), and Bowen et al. (2005) confirms that the order in which positive and negative information about an enterprise is presented by the management in external reports influences the judgments of the users of those reports, and thus their assessment of the financial situation of the enterprise and its prospects of development. Depending on the order of presenting information for the purposes of formulating judgments and making decisions, the users of information would succumb to either the primacy or recency effect (Baird, Zelin 2000; Theis et al., 2012). Most often, the assessments are overly optimistic. The opinions that are formulated based on these assessments, and the decisions subsequently made, can, therefore, be prone to the cognitive biases discussed in the first part of the text, to which people with no experience are susceptible to a greater extent (Pinsker, 2007). It means that structural manipulation can be an effective impression management tool.

The affirmative answer to RQ1 opened the path to answer RQ2 and to verify the research hypothesis.

In order to test the hypothesis, it was necessary to analyze the correlations of the codes detected in the documents and the results obtained in a given reporting year by a given company. With this analysis, an issue that appeared was the selection of indicators or parameters describing the company's results that should be taken into account. The authors opted for a profitability ratio which has a relative character, thus making the analysis independent of the size of a company. The results of the analysis of the relationship between the company's profitability and the scope of structural manipulation are presented in Table 5.

Table 5. Results of the document coding

Id	Profitability ratio* %	Number of			GN1	BN1	GN2	BN2	GN3	BN3
		characters	words	sentences						
001	8.98	5355	709	39	8	4	13	0	10	0
002	14.99	4280	589	42	9	3	9	0	13	1
003	10.15	5838	780	43	18	4	18	1	9	1
004	6.41	9088	1207	71	11	1	8	2	16	2
005	14.73	6166	819	53	7	1	10	2	17	1
006	-27.03	7025	973	73	8	3	10	4	18	1
007	-2.08	5917	790	60	15	1	8	0	8	2
008	0.02	5475	740	48	7	4	8	2	10	2
009	21.24	7466	995	62	11	2	8	1	10	0
010	7.54	14088	1848	126	19	2	11	3	14	4
011	1.44	3543	458	33	7	1	6	1	6	0
012	0.41	4985	802	42	8	2	6	3	7	2
013	9.62	6276	838	32	8	2	3	2	11	2
014	5.08	4148	528	30	12	1	9	1	5	2
015	0.14	5601	752	43	11	5	9	3	7	1
016	4.39	5049	664	32	11	2	15	0	10	1
017	34.38	9435	1219	59	24	2	18	4	19	1
018	1.22	1814	229	14	1	0	4	4	5	1
019	-8.36	5379	745	42	10	2	11	2	7	1
020	6.97	6943	846	43	5	1	6	2	6	4
021	7.66	4612	606	39	8	3	9	0	8	3
022	0.58	4267	549	36	7	3	8	0	6	1
023	5.91	7134	1014	50	11	0	7	1	15	0
024	2.29	13463	1814	95	18	2	14	4	18	2
025	3.24	5748	698	47	10	2	7	2	8	4
026	2.13	5000	717	45	5	1	8	1	11	4
027	3.13	5239	766	50	7	2	9	1	11	1
028	5.52	5883	706	48	7	2	12	2	10	1
029	-1.22	5141	677	60	8	1	8	0	6	0
030	8.12	3495	456	45	3	3	11	1	4	1
031	5.52	1972	295	39	1	1	6	0	1	0
032	3.24	5739	782	49	9	1	8	2	7	2

Table 5. (cont.)

Id	Profitability ratio* %	Number of			GN1	BN1	GN2	BN2	GN3	BN3
		characters	words	sentences						
033	8.31	5991	769	48	8	2	7	3	10	2
034	1.74	10154	1360	88	14	1	14	3	12	0
035	0.49	5950	705	43	9	3	9	3	9	2
036	8.32	3464	474	40	10	0	5	2	9	1
037	17.51	2488	362	16	6	1	7	3	7	1
038	7.38	5563	775	49	8	1	9	2	10	1
039	2.14	5254	731	46	7	3	8	0	10	1
040	7.21	4026	569	30	11	1	8	0	7	2
041	11.01	6340	868	57	9	2	15	2	12	4
042	7.87	8056	1128	84	11	6	6	2	14	2
043	7.40	3344	441	30	3	0	6	1	3	0
044	1.81	4217	544	32	7	0	9	4	9	3
045	1.20	5018	801	43	9	1	8	2	9	3
046	0.33	5816	771	49	10	2	9	2	8	2
047	0.75	4101	575	42	4	2	9	2	11	2
048	-19.95	2188	289	19	2	1	4	1	5	2
049	0.91	1179	149	8	6	0	4	1	4	0
050	-3.17	8363	1082	54	10	8	6	2	10	3
051	8.95	6598	890	65	12	0	12	0	10	2
052	0.78	6119	802	47	9	4	8	0	11	1
053	5.69	5742	751	43	7	2	8	2	5	2
054	3.40	2961	385	17	10	0	8	0	8	0
055	1.35	3701	485	28	9	2	8	0	11	3
056	0.99	6622	891	71	6	0	6	1	7	3
057	7.51	3510	493	25	2	2	3	0	3	0
058	-5.66	5033	774	49	9	3	9	2	8	0
059	0.62	5390	699	29	7	5	8	4	11	2
060	8.78	5852	716	44	10	4	9	0	9	1
061	-1.56	5135	706	32	2	6	8	4	5	1
062	-1.06	7343	957	37	7	2	8	0	7	4
063	-4.88	10279	1402	60	9	3	4	4	10	6
064	0.18	12213	1694	99	8	7	8	2	7	6

Table 5. (cont.)

Id	Profitability ratio* %	Number of			GN1	BN1	GN2	BN2	GN3	BN3
		characters	words	sentences						
065	37.52	4415	612	48	3	0	5	1	1	1
066	-3.44	2869	390	46	0	2	1	0	3	4
067	0.03	4385	575	46	5	2	5	0	3	1
068	1.63	8562	1172	81	8	2	3	1	9	5
069	5.22	2291	298	15	5	0	5	2	3	1
070	18.67	4402	574	36	12	1	8	1	7	2
071	2.71	4623	615	52	8	0	5	1	12	2
072	5.12	4240	542	28	2	1	5	0	4	4
073	3.30	7647	992	72	11	1	7	2	9	2
074	4.85	4232	589	36	6	3	8	0	7	1
075	2.46	4659	646	32	10	0	2	2	6	2
076	3.80	3690	491	28	9	1	8	1	13	1
077	2.57	3988	542	25	6	3	11	0	9	1
078	2.32	7562	1018	47	8	7	6	3	3	3
079	1.37	4388	596	37	9	0	9	2	11	0
080	24.91	5113	659	41	3	0	7	1	3	1
081	0.58	6010	737	47	9	4	9	0	11	3
082	-6.80	5299	730	57	7	5	9	1	7	1
083	11.88	4073	551	33	5	2	2	0	5	2
084	3.81	4987	655	32	7	1	7	2	7	1
085	4.69	5743	701	48	11	2	8	0	10	4
086	21.40	3084	438	28	4	1	3	2	4	1
087	27.97	6939	983	75	11	2	7	1	5	1
088	0.75	5423	750	53	6	2	4	4	3	1

* Net profit / Revenues \times 100%.

Source: own study.

The data in Table 5 prove that there is a positive correlation between the degree of structural manipulation and the profitability of the enterprise, but the relationship is not strong. Enterprises whose profitability ratio is higher than 10% presented, on average, the most positive information at the beginning of the letter to the shareholders; the remaining enterprises presented, on average, the most positive information at the end of the letter to the shareholders. However, on average, all the analyzed enterprises

presented the least negative information in the middle of the letter to the shareholders. On the basis of these results, the hypothesis cannot be confirmed. Although the majority of documents marked with more than three codes refer to less profitable companies, the low correlation coefficient does not allow positive verification of the hypothesis. This can result from the fact that Polish companies use impression management techniques to a much lesser degree than companies from developed countries, which is understandable, given the relatively short period of the functioning of the market economy in Poland. It can be assumed that, over time, management staff's awareness of the possibilities of impression management will grow, which will translate into an approximation of the degree and scope of structural manipulation in Polish and foreign enterprises. However, this will require empirical verification in the future.

4. Conclusions from the study and its limitations

Based on annual reports from the biggest Polish enterprises for the year 2017, the authors examined the use of one of the techniques of impression management – structural manipulation – by the management of those enterprises. While collecting documents for analysis, the authors performed data extraction, which consisted in focusing on the letters from the Management Boards (a non-obligatory element of the annual report). In the absence of such a letter, it was necessary to select appropriate content from the reports on the operations of the Management Board (an obligatory element of the annual report). The results of the study confirm the belief that is dominant in the literature that structural manipulation is one of the methods of impression management in the hands of company management and is employed by them independently of the company's performance (Brennan et al., 2009; Merkl-Davies, Brennan, 2011; Brennan, Merkl-Davies, 2013, Brennan et al., 2013). Thus, the presented research increases the amount of evidence that impression management is a constant area of research in company accounting. It is not surprising, given that managers are motivated to represent the performance of their companies in a favorable light. Therefore, impression management used by management boards is consistent with the literature, which shows that individuals react to social pressure to present themselves in the best possible light (van Halderen et al., 2016; Berrone et al., 2009; Breitsohl, 2009; Lyon, Maxwell, 2011).

On the other hand, it was not possible to positively verify the research hypothesis connecting the scope of structural manipulation with the company's performance. This failure can have various causes. In addition to those that may result from the limitations listed below, the following may be indicated:

- Polish companies, although they use impression management techniques, have been doing it for a relatively short time and have not managed to develop the ability to manage the impression in a more sophisticated manner,
- the study concerned annual reports from one financial year, 2017, which was generally auspicious for Polish enterprises, and this is confirmed by the favorable

macroeconomic parameters (for example, GDP for 2017 – 4.6% against 3% in 2016 (Statistical Office, 2019)). It can thus be assumed that as they were achieving good results, they did not have to resort to structural manipulation too often.

The basic limitations of the presented research concern, above all:

- the limited subject sample – although the reference to the 100 largest Polish enterprises allows for the construction of conclusions applicable to these enterprises, it cannot be ruled out that enlarging the sample may lead to different conclusions than those presented in the work,
- the limited sample in the context of the period covered by the annual report – a study limited to one year – does not make it possible to determine the impact of macroeconomic factors on the behavior of the management of enterprises,
- the limited sample in the context of the scope of information reported by enterprises meant that the authors focused on the letters, and to a lesser extent, on the performance report. However, the descriptive part that can be manipulated is also in other parts of the annual report, and a manipulation study with respect to numerical data may also be interesting,
- potential errors in the computer data processing algorithm. Apart from the possibility of errors in the algorithm's construction or in the coding of the program itself, the greatest risk concerns the inadequate correctness of the matrix containing phrases, on the basis of which good and bad messages present in the analyzed documents are identified,
- potential errors made by the authors during manual encoding.

Summary

Behavioral factors that impact cognitive abilities determine a person's comprehension of phenomena, their attitude towards them, and thus their behavior. The subjective image of a company created on the basis of information from accounting is based on, among others, the information users' perceptions, which are inextricably linked with their memory. In the course of processing information, new items of information become integrated with existing knowledge, which influences judgments and decisions. The behaviors of accounting information users, including their opinions and decisions, can thus be manipulated by the creators of that information with the use of information availability (in STM and LTM), and in information anchoring. For this reason, a person can be susceptible to various cognitive tendencies or biases.

Knowledge about the possibility of disruptions in the stakeholders' processing of information, related to limited memory, its impermanence, and distraction resulting from difficulties in concentrating, perception errors, information overload, and time pressure, can be used for the purposes of impression management. In turn, in the reports created by the companies and provided to the stakeholders, research in the field of

impression management is important for the data included in reports to be perceived and interpreted properly. Some researchers claim that increasing access to information created by enterprises can mean that it is impossible to properly read and interpret these reports without being aware of the potential use of “impression management” tools and techniques by the creators of these reports, [e.g., Neu et al. 1998, Hellmann 2016]. The authors of this article agree with this view, and this opinion is also supported by the results of the research presented in this work.

Firstly, they confirm that the managements of Polish companies do turn to techniques of impression management, in particular, structural manipulation. The research has shown that structural manipulation was commonly used, regardless of the profile of the company, its financial condition, or the industry. In the context of further research, the following question is interesting: how consciously and deliberately is structural manipulation used by management boards? A study of the intentions of the authors of reports and the relationship between these intentions and various internal and external factors seems to be another interesting area of research.

Secondly, the results of the research indicate that a correlation exists between the scope and degree of employing structural manipulation in reporting and the results achieved in a reporting year. However, the strength and depth of this relation is not clear and requires further, in-depth research. Such research should have a longer time horizon that takes into account different boom-bust cycles – not only during prosperity but also during economic downturn. The research should also be supplemented with appropriate statistical analysis to verify the described correlation.

The presented research results make a specific contribution to the development of knowledge on “impression management” present in the annual reports of Polish enterprises. There is relatively little published research in this area regarding Polish entities (Hadro et al., 2017); therefore, each subsequent study is important to understand the behavior of Polish managers. The research conclusions on enterprises in other countries cannot be extrapolated to Poland. The dominant view among researchers is that impression management has a strict cultural and regional context (e.g., Merkl-Davies, Brennan, 2017).

In addition, the research presented in this article can have an impact on future research on impression management used by Polish enterprises. In this context, the authors of this article believe that any future research should broaden the scope of data sources to be analyzed by including the management commentary, which is an obligatory element of the annual report in Poland (in contrast to the letter to shareholders). Although the management commentary analysis requires a time-consuming transformation of this document into a form that is suitable for analysis, in the opinion of the authors, without taking into account this report, it will not be possible to conduct research in Poland with a sufficient level of generalization of inference.

Taking this into account, it is justified and necessary to continue research on structural manipulation and, more broadly, on impression management techniques and strategies. In the authors' opinion, future researchers should focus on establishing the

relationship between the tendency for structural manipulation and various attributes relevant to researchers. Among them, the categories describing the company's performance, size, and ownership structure should be considered the most important. Research is needed on larger samples in the subjective, objective and time perspectives, which will allow for a better understanding of how communication between enterprises and internal and external stakeholders proceeds and develops in the face of dynamically changing economic and social conditions.

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