Humanities & Social Sciences Communications



REVIEW ARTICLE

https://doi.org/10.1057/s41599-022-01339-6

OPE



1

Communication tool in management accounting: adapting Jakobson's (1960) communication model

Ying Sophie Huang¹ & Moeki Nemoto ¹ ≥ □

Cognition is often a problem in management accounting communication. A gap arises between the sender and receiver of management accounting information, leading to miscommunication. A semiotic approach is a practical tool to decrease such miscommunication in management accounting. Jakobson's communication model helps decrease such miscommunication. This study examines how Jakobson's communication model is helpful for management accounting communication and our proposed communication model is intended to support management by providing relevant and timely information for planning, controlling, and decision-making. Additionally, our communication model is designed to decrease miscommunication.

Introduction

he Global Management Accounting Principles, published in 2014 by the Chartered Global Management Accountant (CGMA), provide core guidance to management accounting. The CGMA (2014, p. 8) set forth four overarching principles that express the value and characteristics of management accounting; the first is "communication provides insight that is influential." Communication is essential in management accounting because "management accounting begins and ends with conversations" (CGMA, 2014, p. 9). According to this principle, communication in management accounting helps break down organisational silos and leads to better decision-making by promoting integrated thinking. However, communication is fraught with failure (e.g., different interpretations of management accounting information by the sender and receiver). The sender of management accounting information needs to make efforts to decrease any miscommunication. In this study, we propose a communication model based on semiotics and argue that it can help to decrease miscommunication. Miscommunication is a misunderstanding or unintended glitch inherent in talks and the transfer of meaning (Williams, 1999).

Research on accounting and communication has been conducted in a variety of fields. In the field of financial accounting, there has been a great deal of research on the communication of financial accounting information, including the studies of Bedford and Baladouni (1962), Jack et al. (2013), and Merkl-Davies and Brennan (2017). The importance of communication research in management accounting has been noted since the 1990s (e.g., Bayou, 1993; Westelius, 1996; Jönsson, 1998). However, there has been little research about communication in the field of management accounting (Pärl, 2012b).

¹ Department of Finance and Accounting, School of Management & Capital Market Research Center, Zhejiang University, Hangzhou, China. ² School of Management, Zhejiang University, Hangzhou, China. ⁸ email: sanada234ma@gmail.com

The cognitive differences between senders and receivers create significant barriers to communicating management accounting information. We propose that the inadequacy of management accounting communication caused by cognitive differences can be decreased by using a semiotic-based framework. Communication occurs through language, and managers and management accountants use a variety of languages (e.g., business languages and natural languages, such as English and Chinese) to communicate in management accounting (Pärl, 2012b). Using linguistics, semiotics, and literary theory, we can analyse the textual properties of the language of the "content" of an organisation. This approach is based on the "linguistic turn" (Macintosh and Baker, 2002; Pärl, 2012b). In addition, Hall (2010) stated that accounting information contributes to managers' work mainly through verbal communication. Semiotics is also helpful in analysing such verbal communication. More importantly, semiotics can be used as a management tool (Lorino and Gehrke, 2007; Pärl, 2012b). Jakobson (1960) developed a communication model based on semiotics. The communication model proposed by Jakobson (1960) has been used in financial accounting (e.g., Masztalerz, 2013a, 2013b; Ueeda, 2014) and marketing (e.g., Even-Zohar, 1990; Fuentes-Olivera et al., 2001). Pärl (2012b) applied Jakobson's communication model to a case study and developed a communication model for management accounting.

We next discuss our reasons for adopting Jakobson's communication model. In addition to semiotic approaches, communication research in management accounting has been conducted using various approaches, such as Giddens' (1984) structuration theory (e.g., Roberts and Scapens, 1985; Englund and Gerdin, 2008; Busco, 2009) and Habermas' (1984, 1987) communicative action theory (e.g., Cooper and Hopper, 2006; Broadbent and Laughlin, 2009; Mulyani et al., 2020). Although Giddens' structuration theory does not focus on the communicating agent, and Jakobson's communication model is helpful in understanding the communication processes and interactions from an epistemological perspective (Pärl, 2011). Habermas' communicative action theory mainly emphasises speech acts. Habermas and Jakobson share the idea that there is a common context amongst communication participants. However, Habermas' communicative action theory mainly emphasises speech acts. Habermas and Jakobson share the idea that there is a common context amongst communication participants. However, we adopt Jakobson's communication model because codes are rarely mentioned in communicative action theory, and it is not easy to visualise the communication process.

This paper makes two contributions. First, we identify how Jakobson's communication model can be helpful for management accounting communication. Jakobson (1960) attempted to understand the constituent factors of any speech event and communication act by constructing a communication model. This idea leads to an understanding of any communication in management accounting. Pärl (2012b) argued that a communication model has four practicalities—(1) the communication model helps analyse the management accounting system in an organisation; (2) the communication model provides systematic and sophisticated knowledge but not personal experience; (3) communication theory can be used as an analytical tool in the management accounting process to gather empirical material that is helpful for researchers and practitioners; (4) communication theory can help managers evaluate and improve their management accounting systems. This study examines whether the above claim is appropriate based on previous research and identifies the limitations in the modified Jakobson's communication models proposed by Pärl (2011, 2012a, 2012b). A communication model for management accounting cannot be easily developed because it requires knowledge of both semiotics and management

accounting. In addition, it requires a significant amount of dialogue and time to understand the sender and receiver. Second, we present a modified management accounting communication model to support management. Whereas previous studies (Pärl, 2011, 2012a, 2012b) aimed to provide a holistic understanding of management accounting, our communication model is intended to support management by providing relevant and timely information for planning, controlling, and decision-making¹. Additionally, our communication model is designed to decrease miscommunication.

The rest of this paper is organised as follows. In the section "The importance of communication in management accounting", we discuss the importance of communication in management accounting. In the section "Jakobson's communication model", we describe the communication model proposed by Jakobson. In the section "Communication model in management accounting", we summarise previous studies on management accounting communication models and propose a new communication model to support management. In the section "Practicality of the management accounting communication model", we discuss the practicality of our modified management accounting communication model. In the section "Conclusion", we conclude and discuss areas for future research.

The importance of communication in management accounting

Management accounting research exists because of practical problems (Mitchell, 2002), and communication is essential. The importance of communication in management accounting can be discussed from the perspective of management accounting terminology and information. Bayou (1993) argued for the need to standardise management accounting terminology based on the premiss that accounting is a language. The idea is that users perceive different meanings for specific terms (Bayou, 1993; Westelius, 1996). Thus, a common perception of a particular term by the target audience will lead to successful communication (Jakobson, 1960; Weißenberger and Holthoff, 2013). Management accounting can bring effective results in practise only when it incorporates the four aspects of the human world—facts, values, logic, and communication (Nørreklit et al., 2006). On communication, through a case study, Westelius (1996) documented that there is a mismatch between managers of management accounting projects and users of management accounting information and pointed out that informal communication may lead to the success of management accounting projects. This is because managers do not adequately understand the users and purposes of management accounting information. Pierce and O'Dea (2003) also found that, in many cases, the information created by management accountants is not suitable for users and organisations.

Furthermore, Jönsson (1998) stated that the complexity of communication, such as the same message being interpreted differently by different people, needs to be analysed on two levels—the conversation itself and the context. To visualise communication, Jönsson (1998) proposed a set of factors of communication, consisting of the "sender," "receiver," "content," and "context," and suggested that the sender and receiver may have different experiences and sense-making. Regarding the context in management accounting, Johnson et al. (2009) conducted empirical research from the perspective of organisational and occupational cultures. They found that differences in organisational and occupational cultures may cause differences in the perception of management accounting terms. Weißenberger and Holthoff (2013) clarified that successful communication requires the denotation and connotation of management accounting terms

to be shared by all parties involved. In addition, Sprinkle (2003) discovered that management accounting information influences individual judgement and decision-making. In summary, these prior studies call for the need to clarify how the abilities, knowledge, and experience of management accountants and others affect their jobs, as well as how managers and other stakeholders use management accounting information.

Jakobson's communication model

The definition of communication in this study combines the definitions of Fiske (1990)³ and Pärl (2012b)⁴ and is as follows: "communication is a social process through which a message has a mutual influence on the sender and receiver." When a message is issued by a sender and reaches a receiver, communication has been established if some influence is observed. Therefore, the direction of communication is not limited to two ways, and communication can take place even in a one-way direction.

To achieve successful communication of management accounting, the cognitive differences between the sender and receiver should be clarified and addressed with caution. Thus, there is a need for a common denotation and connotation of management accounting terms (Weißenberger and Holthoff, 2013). Citing a real experience we encountered at a medical management conference, we use the term, "BSC," as an example to illustrate this point. Many people with knowledge of management accounting may recognise BSC as an abbreviation for "balanced scorecard." Most of the attendees at the conference used the term BSC. However, one of the medical doctors who attended the conference first recognised BSC as an abbreviation for "best supportive care." What will happen if this miscommunication occurs in a hospital implementing BSC? We believe that Jakobson's communication model can be used to decrease this type of miscommunication.

Jakobson's communication model has been widely adopted in marketing, financial accounting and management accounting research. This is because it emphasises the importance of codes (Pärl, 2011). In the first place, communication represents a series of events in which the sender sends out ideas (encoding), and the receiver receives them (decoding). Miscommunication occurs in the process of encoding and decoding messages (Johnson et al., 2009). Thus, code is a critical concept in communication, and Jakobson's communication model is useful because it allows for code visualisation. Moreover, it has the feature of dual structures that model the components and functions of communication (Fiske, 1990). In this section, we try to outline semiotics, which is the basis for analysing communication in management accounting and Jakobson's communication model.

Communication in semiotics. Semiotics is the study of the process of creating meaning conveyed by "symbols" or "signs" (Pärl, 2012b) and has a long history dating back to the early 20th century. It was created by the linguist Ferdinand de Saussure and the philosopher Charles Sanders Peirce. We use the balanced scorecard as an example to illustrate what a sign is. We understand in our language that the balanced scorecard is made up of a scorecard and a strategy map. Language is a sign, and it is impossible to guess an object without language (Jakobson, 1971). Communication sends a message to a receiver using symbols such as words (Aririguzoh, 2022).

The subject of semiotics is "any object, which acts as a means of linguistic description" (Lotman, 2005, p. 206). Accounting is generally considered to be the language of business (e.g., Belkaoui, 1978; Boland and Pondy, 1983; Evans, 2004; Amernic, 2013; Weißenberger and Holthoff, 2013), and semiotics, which is the study of language, is helpful in management accounting.

Semiotics is also valuable in communication research. Hodge and Kress (1988) point out that "semiotics offers the promise of a systematic, comprehensive and coherent study of communications phenomena as a whole, not just instances of it" (p. 1).

Communication model in Jakobson (1960). Jakobson introduced semiotics into many fields, including linguistics, literature, poetics, and aesthetics. The initial adoption of the communication model in "Linguistics and Poetics" dates back to 1960. He proposed a communication model that comprises six components: (1) addresser, (2) addressee, (3) context, (4) contact, (5) code, and (6) message (see Fig. 1). In management accounting, Jönsson (1998) presented the factors of communication (see Fig. 2), consisting of "sender," "receiver," "content," and "context," and revealed that the same text can be read in various ways by analysing conversations amongst top managers. Moreover, "the epistemological status of these interpretations remains a problem" (Jönsson, 1998, p.430). Although Jönsson (1998) recognised that codes are an essential concept, he did not include them in Fig. 2 in his study.6 Thus, Jakobson's communication model with six components, including the concepts of contact and code, which allows for more detailed communication analysis, is superior.

When considering the act of communication, the essential components are the addresser, addressee, and message. (1) Addresser is the one who sends the message, or the one who encodes the message. (2) Addressee is the one who receives the message, or the one who decodes the message. (3) Context is a feature necessary for a message to have an effect and can be a language or verbalised genre that the recipient can understand. (4) Contact is a mental or physical channel that facilitates communication between the addresser and addressee. (5) Code is what the addresser and addressee use to encode and decode the message, respectively, and a common code is needed for both. (6) Message is what is transmitted from an addresser to an addressee through language.

The language functions of these six components are connected to each other (see the bold text in Fig. 1). Thus, Jakobson's communication model is a dual structure that models components and functions (Fiske, 1990). In Jakobson's communication model, (1) the addresser has an emotive function; (2) the addressee has a conative function; (3) the context has a referential function; (4) the contact has a phatic function; (5) the code has a metalingual function, and (6) the message has a poetic function.

Each language function is described below based on the studies of Jakobson (1960, 1985) and Fiske (1990). (1) Emotive function

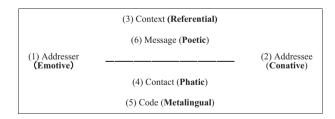


Fig. 1 Communication model in Jakobson (1960). Source: partially modified from Jakobson (1960, p. 3, 7).

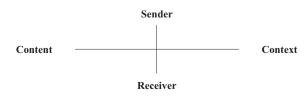


Fig. 2 The factors of communication. Source: Jönsson (1998, p. 417).

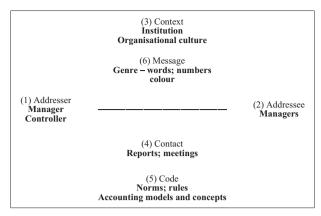


Fig. 3 Communication model in Pärl (2011). Source: Partially modified from Pärl (2011, p. 196).

expresses the addresser's attitude and emotion. (2) Conative function refers to the impact of the message on the addressee. (3) Referential function means objective and truthful communication. (4) Phatic function connects and maintains the communication channels between the addresser and addressee. (5) Metalingual function identifies the code used in a message. (6) Poetic function is orienting the message itself (e.g., rhyming).

Communication model in management accounting

We used Google Scholar to collect management accounting research that has employed Jakobson's communication model. We set three keywords as the search criteria—"communication model", "management accounting," and "Jakobson". The literature was extracted up to 2020, and six papers were found to be applicable. However, among them, one is not related to management accounting, and one is an article in Polish (Masztalerz, 2015). The remaining four papers are all written by Pärl (2011, 2012a, 2012b, 2019), who incorporated Jakobson's communication model into management accounting research and developed his communication models step by step. The communication models proposed by Pärl (2011, 2012a, 2012b, 2019) intend to provide a holistic understanding of the complex processes involved in management accounting; they are discussed in turns below.

Management accounting communication models by Pärl

Communication model in Pärl (2011). Pärl (2011) is probably the first to apply Jakobson's communication model to management accounting. The communication model proposed by Pärl (2011) is shown in Fig. 3. This model can be used to identify and classify factors in the communication process. In the model, senior-level managers and controllers send out management accounting information to low-level managers. Reports and meetings are the contacts; the contexts are the institution and organisational culture; and the codes are norms, rules, accounting models, and concepts. Pärl (2011) argued that we need to consider different levels of communication (communication level and automatic communication level⁷) when considering the context of communication.

Communication model in Pärl (2012a). Pärl (2012a) built a communication model by making changes to context, contacts and messages (see Fig. 4) in the communication model proposed in his earlier study (Pärl, 2011). Knowledge is a new added as an example of context. Reports, performance, and channels were used as examples of contacts, whereas economic results and the reality of a company were used as examples of messages. Because

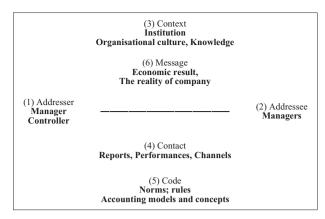


Fig. 4 Communication model in Pärl (2012a). Source: Partially modified from Pärl (2012a, p. 104).

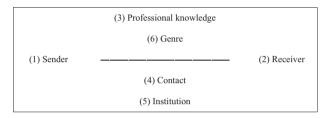


Fig. 5 Communication model in Pärl (2012b). Source: Partially modified from Pärl (2012b, p. 77).

Pärl (2011) used reports and meetings as contacts, we take a broader view by adding performance and channels. Texts are communicated to recipients through face-to-face meetings, emails, and whiteboards. The meaning of messages changed significantly in Pärl (2011) and Pärl (2012a), with the latter considering the purpose of management accounting messages as actions to achieve organisational goals, which is closely related to the image of the economic reality of the company. Therefore, he used messages as examples of economic results and the reality of a company rather than genres.

Communication model in Pärl (2012b). Pärl (2012b) made changes not to the examples but to the six components of communication, which constitutes a significant change to Pärl (2011, 2012a). The communication model of Pärl (2012b) was cited in Pärl (2019), so we consider it as a complete version of Pärl's management accounting communication model. Figure 5 does not include examples of components in management accounting but example are provided in the text of Pärl (2012b). Regarding senders and receivers, the figure reveals that everyone, whether an individual or a group, can be a sender or receiver. Communication takes place without a clear awareness of who is the sender or receiver. Professional knowledge includes concepts used in management accounting; accounting models (e.g., budgeting); and professional knowledge of markets, processes, products, etc. (e.g., engineering). Examples of contact are meetings and IT tools, including channels and tools for the sender and receiver to collect and share management accounting information. Organisational norms and practises are some examples of institutions, whereas messages include words, colour, and numbers.

Proposal of a modified communication model in management accounting. The communication models discussed in the section "Management accounting communication models by Pärl" can reflect Pärl's ideas about management accounting

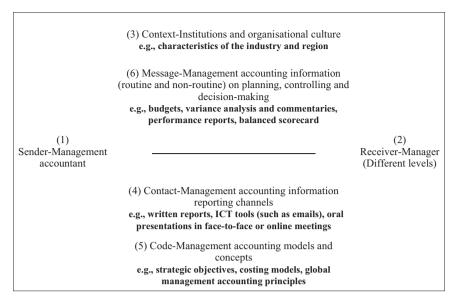


Fig. 6 Communication model of management accounting. Source: Prepared by the author.

communication. The three communication models proposed by Pärl (2011, 2012a, 2012b) have undergone various changes. The examples of each component mentioned in the series of communication models proposed by Pärl have the drawback that they are not related to the previous studies on management accounting communication.

In this study, we propose a modified communication model (see Fig. 6) based on the communication models of Pärl (2011, 2012a, 2012b) while incorporating the findings of previous studies. Modelling is valuable and necessary as a basis for research (Fiske, 1990; Pärl, 2019). This communication model is intended to support management's planning, control, and decision-making. It also decreases miscommunication.

Figure 6 shows the communication between management accountants and managers (different levels) regarding management accounting information. Such communication can take place in written reports, ICT tools (such as emails), oral presentations in face-to-face or online meetings. Management accounting information about planning, control, and decision-making is understood by institutions and organisational cultures, such as industry and regional characteristics, and interpreted by management accounting models and concepts (e.g., strategic objectives, costing models, global management accounting principles).

Sender-management accountant. In the study of Pärl (2011), senior managers and controllers are assumed to be the senders, but because anyone who handles management accounting information can be a sender, it is not necessary to limit it to senior managers and controllers. We use management accountants, who are not mentioned in Pärl's (2011, 2012a) example. This is because management accountants prepare management accounting information (Pierce and O'Dea, 2003; Weißenberger and Holthoff, 2013).

Receiver-manager (different levels). We consider different levels of managers as receivers, such as in Fig. 3. Because, as mentioned earlier, we are proposing a communication model to support management. However, managers are not necessarily the only users of management accounting information. Westelius (1996) pointed out that one of the reasons for the mismatch between project managers and information users is that project managers cannot identify the users of management accounting information.

Moreover, the balanced scorecard (e.g., Oliveira et al., 2021) and integrated reporting (e.g., Rodríguez-Gutiérrez, 2021) can be used as a tool for corporate communication. Because corporate communication is targeted at stakeholders inside and outside an organisation, it is necessary to consider all stakeholders as receivers of management accounting information. A stakeholder can be anyone (e.g., customer, employee, and executive) who is involved in the success of a company (Goodman, 2000; Mohamad et al., 2018)⁹.

Context-Institutions and organisational culture. The context is the same as in Fig. 3, using institutions and organisational culture. Examples are characteristics of the industry and region, etc. Organisational (and occupational) cultures influence the perception of management accounting terms (Johnson et al., 2009). Additionally, management accounting information may be perceived differently by managers of different departments (Pierce and O'Dea, 2003). Language, including technical terms, develops a classification system for describing experiences and concepts and shapes our perception of reality (Hansen, 1995; Johnson et al., 2009). Context is a critical point. As there are no "management accounting standards" such as the generally accepted accounting principles (GAAP) for management accounting, the receiver needs to be aware of the context of the communication to fully understand the information and use it for planning, decision-making and controlling. In practise, we believe it is practical to describe the organisation's characteristics precisely (e.g., organisational culture that neglects/emphasises accounting data, a habit of giving priority to the field, management style that ignores costs, level of awareness of fraud). By visualising the context, it is possible to clarify the points to keep in mind when handling management accounting information.

Contact-management accounting information reporting channels. Contact refers to the mental connexion or physical channel that facilitates communication between the sender and receiver. In the study of Pärl (2011), reports and meetings are given as examples of contact, but written reports, ICT tools (such as emails), and oral presentations in face-to-face or online meetings are applicable because contact is a phatic function. ICT is an important contact method to facilitate communication. "Coordinated use of social media platforms, Internet-based tools and corporate websites can further increase the formats utilised to organise and

disseminate information to report users" (Lodhia and Stone, 2017, p. 22).

Code-Management accounting models and concepts. Code is a function that involves socio-cultural aspects and assigns social code to the message. As in Fig. 3, we use management accounting models and concepts as codes, but we limit ourselves to management accounting-specific content compared to Pärl (2011). Examples are strategic objectives, costing models, global management accounting principles, etc.

Message-Management accounting information (routine and nonroutine) on planning, controlling and decision-making. This communication model uses management accounting information (routine and non-routine) on planning, controlling and decisionmaking as the message, which is different from Pärl (2011, 2012a, 2012b). Examples are budgets, variance analysis and commentaries, performance reports, balanced scorecards, etc.

Practicality of the management accounting communication model. There is no interdisciplinary empirical research in management accounting that connects linguistics, semiotics, and management studies (Pärl, 2012b). To overcome this gap, Pärl (2012b) conducted a case study of PL, a company that builds and maintains power lines in the Baltic States. He conducted participant observation and semi-structured interviews from 2007 to 2010. In the case study, Pärl was actively involved in various activities of PL as a change agent. Accordingly, Pärl (2012b) identified the following four practicalities of communication theory and models (pp. 167-168):

- (1) The communication model of management accounting is a tool to analyse the communication process and guide actions to achieve organisational goals. In the case study, the communication model was used to analyse how management accounting works in a company.
- The communication model of management accounting can diagnose and explain the workings of a system in a systematic and sophisticated manner rather than through personal experience. It also provides knowledge of various theories. The communication theory and model of management accounting can increase the influence and competence of management accountants and managers.
- The communication theory of management accounting can be helpful to researchers and practitioners as a tool to analyse and examine the management accounting process. It is possible to collect empirical materials from the dimension of the communication process rather than from the one-dimensional management accounting perspective. Therefore, it can be a primary theory in forming a new methodology of communication process research in management accounting.
- The communication theory of management accounting is helpful for managers to analyse the implementation of management accounting. Specifically, it helps evaluate management accounting and improves its processes. The communication model of management accounting encompasses various communication elements (e.g., the economic background of the firm and company, the background of the sender and receiver, budget, salary, and reporting methods). The case study shows that it is possible that the communication theory would improve management accounting.

We will review this claim by Pärl (2012b) considering the arguments in previous studies. Hence, we present our arguments as follows:

Regarding practicality (1), we propose that using communication models can deepen the understanding of the entire management accounting system. This needs to be considered in light of the limitations of the communication model. No matter how well developed a communication model is, the sender cannot understand everything about the receiver (Lotman, 1979). A model is like a map that shows the characteristics of its domain but is not exhaustive (Fiske, 1990; Pärl, 2019). Therefore, the management accounting system, as seen from the communication model, is limited.

Regarding practicality (2), we argue that using communication models can improve the ability and influence of management accountants and managers. This implies that systematic knowledge accumulation can be achieved by using a communication model. Using the case of Westelius (1996) as an example, we can use a communication model to analyse who the receiver is, how well the user understands management accounting, and what type of management accounting information the user wants. However, it is necessary to consider that the sender and receiver of management accounting information are likely to have different cognitive styles and levels of professional knowledge (Weißenberger and Holthoff, 2013). The capabilities and influence of both senders and receivers cannot be increased without understanding the differences between them.

Regarding practicality (3), we propose that a communication model can provide helpful empirical evidence about management accounting for researchers and practitioners. The communication model may overcome the research issues Sprinkle (2003) raised, including how management accounting information is used and how knowledge, competence, and experience affect it. Pärl's (2012b) case study clarifies how management accounting information is handled in PL. Moreover, by widely sharing the findings of the case studies, it would be possible to compare different cases.

Regarding practicality (4), we claim that it is important for managers to evaluate and improve their management accounting systems. The communication model makes it possible to visualise the communication process in various situations, such as introducing, operating, and improving management accounting systems. To improve the quality of management accounting information, both the sender and receiver must share the same perception about the necessary information, timing, and format (Pierce and O'Dea, 2003). As language is constantly changing depending on the people who use it (Weißenberger and Holthoff, 2013), it is necessary to analyse communication in various situations.

Although we have examined the practicality of the communication model, there are at least two limitations of this study. The first is that Jakobson's communication model, on which our arguments are based, has its limitations. This communication model is based on the assumption that both the sender and receiver are using the same code in the same situation (Maciocco and Tagliagambe, 2009). Therefore, Jakobson's communication model may not be able to fully reflect the complex reality. Second, it is not easy to create a communication model. Creating a communication model requires knowledge and skills in both management accounting (e.g., Pierce and O'Dea, 2003) and semiotics. Furthermore, it requires a significant amount of time and dialog to understand the background of the sender and receiver, and this understanding depends on the competence of the developer of the communication model. Despite these limitations, we believe that a communication model can be a practical tool depending on its application. For example, a communication model can be used to stimulate the thinking of managers and management accountants within an organisation. Moreover, a communication model developed by managers can

be shared within an organisation in the same way that strategies are shared in the balanced scorecard. It can also be used to improve the management accounting system of an organisation by acting as a change agent in the organisation, as in the case study presented by Pärl (2012b). Our proposed communication model is intended to support management. Therefore, we have designed it with many examples to be used by management accountants who do not have professional knowledge of semiotics. Management accountants can freely customise the communication model based on our examples.

Conclusion

Previous studies have revealed the cognitive differences between the sender and receiver of management accounting information in management accounting communication. Specifically, different interpretations are made by the sender and receiver, and the sender may misjudge the scope and needs of the receiver (the user of management accounting information). Accounting is a language, and so is management accounting. In this study, we argue that Jakobson's communication model is useful for overcoming such miscommunication.

The communication model proposed by Jakobson consists of six components—(1) addresser, (2) addressee, (3) context, (4) contact, (5) code, and (6) message. Based on previous studies, we propose a communication model for management accounting that comprises six elements—(1) sender-management accountant, (2) receiver-manager (different levels), (3) contextinstitutions and organisational culture, (4) contact-management accounting information reporting channels, (5) management accounting models and concepts, and (6) message-management accounting information (routine and nonroutine) on planning, controlling and decision-making. It shows the communication between management accountants and managers (different levels) regarding management accounting information. Our communication model is intended to support management's planning, control, and decision-making. It also decreases miscommunication.

The practicality of the communication model is examined based on the following four practicalities listed by Pärl (2012b): (1) the communication model helps analyse the management accounting system in an organisation; (2) the communication model provides systematic and sophisticated knowledge rather than personal experience; (3) the communication theory can be used as an analytical tool in the management accounting process to gather helpful empirical evidence for researchers and practitioners; (4) the communication theory can help managers evaluate and improve their management accounting systems. The communication model makes it possible to understand how management accounting information is handled. It is also possible to identify the causes of differences in interpretation that occur between senders and receivers. Thus, the causes of miscommunication can be clarified. We acknowledge that Jakobson's communication model, on which our modified management accounting communication model is based, has its limitations, e.g., the model may not be able to reflect the complex reality and is not easy to create. The creation of a communication model requires knowledge of both semiotics and management accounting. In addition, it requires effort to gather information about senders and receivers. The ability of developer of the communication model plays a vital role in understanding it. Our proposed communication model is designed with many examples so that it can be used by management accountants who do not have professional knowledge of semiotics. Management accountants can freely customise the communication model based on our examples.

The modified management accounting communication model can be used in a variety of ways. For example, the communication model can reveal the thinking of managers and management accountants in an organisation, such as the balanced scorecard. It can also be used as a change agent or consultant to improve the management accounting system, as in the study of Pärl (2012b). Our model is just one approach based on Jakobson's (1960) concept, and there are other approaches in linguistics, such as those based on metaphors (e.g., Amernic, 2013). We call for more case studies to be conducted on communication models. Applying the model in practise may reveal practical issues, such as the cost of implementing a communication model and its effectiveness.

Data availability

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

Received: 21 April 2022; Accepted: 5 September 2022; Published online: 16 September 2022

Notes

- 1 This objective based on the definition of management accounting by National Association of Accountants (1981) and Institute of Management Accountants (2008).
- 2 The details will be discussed in the section "Communication model in Jakobson (1960)"
- 3 Fiske (1990, p. 2) defined communication as "social interaction through messages".
- 4 Pärl (2012b, p. 13) defined communication as "social interaction between individuals that creates social reality and actions through messages. Communication is an ongoing social process in which the parties to the communication (sender and receiver) influence each other simultaneously".
- 5 Best supportive care is a technical term used in the medical field and is described in detail in the study of Zafar et al. (2008).
- 6 In "content," Jönsson (1998) pointed out that senders and receivers have different experiences and different structural and institutional frames for sense-making. Moreover, they argued that institutional frames (e.g., commitment, trust, team, and role) can reduce the complexity of communication through the use of codes. In other words, Jönsson (1998) recognised code as one of the factors of "content" in Fig. 2.
- 7 Pärl (2012b, p. 13) defined automatic communication as communication with oneself. Rather than adding to existing information, automatic communication transforms the self-understanding of the person who produced the text, transforming the existing message into a new system of meaning (providing a new code).
- 8 Pärl (2012a, p. 104) stated the reason for choosing economic results and the reality of a company as examples of messages as follows. "The aim of messages in MACS is to create a picture of the economic reality of a company, its effectiveness and success, its objectives and goals".
- 9 Communication with stakeholders can be done through public relations, investor relations, public affairs, corporate advertizing, internal communication, and environmental communication (Van Riel and Fombrun, 2007). For internal stakeholders, there are various media available, such as internal emails, face-to-face, intranet, bulletins, and circulars. For external communication, mass communication tools, including radio, television, magazines, newspapers, and the internet are most effective (Mohamad et al., 2018).

References

Amernic J (2013) Perspectives on the role of metaphor. In: Jack L, Davison J, Craig R (eds) The Routledge companion to accounting communication. Taylor & Francis, London and New York

Aririguzoh S (2022) Communication competencies, culture and SDGs: effective processes to cross-cultural communication. Humanit Soc Sci Commun 9, 96. https://doi.org/10.1057/s41599-022-01109-4

Bayou ME (1993) Standardization issues in management accounting communication. Account Audit Account J 6(2):32–52. https://doi.org/10.1108/09513579310036369

Bedford NM, Baladouni V (1962) A communication theory approach to accountancy. Account Rev 37(4):650–659

Belkaoui A (1978) Linguistic relativity in accounting. Account Organ Soc3(2):97–104. https://doi.org/10.1016/0361-3682(78)90019-3

- Boland RJ, Pondy LR (1983) Accounting in organizations: a union of natural and rational perspectives. Account Organ Soc 8:223–234. https://doi.org/10.1016/ 0361-3682(83)90030-2
- Broadbent J, Laughlin R (2009) Performance management systems: a conceptual model. Manag Account Res 20(4):283–295. https://doi.org/10.1016/j.mar.
- Busco C (2009) Giddens' structuration theory and its implications for management accounting research. J Manag Gov 13(3):249–260. https://doi.org/10.1007/ s10997-008-9081-6
- CGMA (2014) Global management accounting principles. https://www.cgma.org/ resources/reports/globalmanagementaccountingprinciples.html Accessed 10 Mar 2019
- Cooper DJ, Hopper T (2006) Critical theorising in management accounting research. Handb Managt Account Res 1:207–245. https://doi.org/10.1016/S1751-3243(06)01007-8
- Englund H, Gerdin J (2008) Structuration theory and mediating concepts: pitfalls and implications for management accounting research. Crit Perspect Account 19(8):1122–1134. https://doi.org/10.1016/j.cpa.2007.06.004
- Evans L (2004) Language, translation and the problem of international accounting communication. Account Audit Account J 17(2):210–248. https://doi.org/10. 1108/09513570410532438
- Even-Zohar I (1990) The 'literary system'. Poetics Today 11(1):27–44. https://doi. org/10.2307/1772667
- Fiske J (1990) Introduction to communication studies, 2nd ed. Routledge, London and New York
- Fuentes-Olivera PA, Velasco-Sacristán M, Arribas-Baño A, Samaniego-Fernández E (2001) Persuasion and advertising English: metadiscourse in slogans and headlines. J Pragmat 33(8):1291–1307. https://doi.org/10.1016/S0378-2166(01)80026-6
- Giddens A (1984) The constitution of society: outline of the theory of structuration. Polity, Cambridge
- Goodman MB (2000) Corporate communication: the American picture. Corp Commun: Int J 5(2):69-74. https://doi.org/10.1108/13563280010372496
- Habermas J (1984) The theory of communicative action: reason and the rationalization of society, vol 1 (trans: McCarthy T). Beacon Press, Boston
- Habermas J (1987) The theory of communicative action: lifeworld and systems, a critique of functionalist reason, vol 2 (trans: McCarthy T). Beacon Press, Boston
- Hall M (2010) Accounting information and managerial work. Account Organ Soc 35(3):301–315. https://doi.org/10.1016/j.aos.2009.09.003
- Hansen CD (1995) Occupational cultures: whose frame are we using? J Qual Participation 18(3):60–64
- Hodge R, Kress G (1988) Social semiotics. Polity, Cambridge
- Institute of Management Accountants (2008) Definition of management accounting. https://www.imanet.org/-/media/6c984e4d7c854c2fb40b96bfbe991884.ashx?as=18mh. Accessed 21 Feb 2022
- Jack L, Davison J, Craig R (eds) (2013) The Routledge companion to accounting communication. Taylor & Francis, London and New York
- Jakobson R (1960) Linguistics and poetics, https://pure.mpg.de/rest/items/item_ 2350615/component/file 2350614/content. Accessed 10 Mar 2019
- Jakobson R (1971) On linguistic aspects of translation. In: Jakobson R (ed.) Selected writings, vol 2. Mouton, Haag/Paris, pp. 260–266
- Jakobson R (1985) Metalanguage as a linguistic problem. Sel Writ 7:113–121. https://doi.org/10.1515/9783110855463.113
- Johnson SD, Koh HC, Killough LN (2009) Organizational and occupational culture and the perception of managerial accounting terms: an exploratory study using perceptual mapping techniques. Contemp Manag Res 5(4):317–342. https://doi.org/10.7903/cmr.1931
- Jönsson S (1998) Relate management accounting research to managerial work. Account Organ Soc 23(4):411–434. https://doi.org/10.1016/S0361-3682(97) 00018-4
- Lodhia S, Stone G (2017) Integrated reporting in an internet and social media communication environment: conceptual insights. Aust Account Rev 27(1):17–33. https://doi.org/10.1111/auar.12143
- Lorino P, Gehrke I (2007) Coupling performance measurement and collective activity: the semiotic function of management systems. A case study. working papers no. DR07015, ESSEC Research Center, ESSEC Business School, ESSEC.
- Lotman YM (1979) Culture as collective intellect and problems of artificial intelligence (trans: Shukman A). In: O'Toole LM, Shukman A (eds) Dramatic structure: poetic and cognitive semantics (Russian poetics in translation, vol 6). Holdan Books, Oxford, pp. 84–96
- Lotman J (2005) On the semiosphere (trans: Clark W). Sign Syst Stud33(1):205-226. [1984]
- Macintosh NB, Baker CR (2002) A literary theory perspective on accounting: towards heteroglossic accounting reports. Account Audit Account J 15(2):184–222. https://doi.org/10.1108/09513570210425600
- Maciocco G, Tagliagambe S (2009) People and space: new forms of interaction in the city project. Springer, Netherlands
- Masztalerz M (2013a) Accounting in the light of linguistics. Zesz Teoretyczne Rachun 71(127):177–191. https://www.ceeol.com/search/article-detail?id=222777

- Masztalerz M (2013b) Semiotic aspects of accounting. Stud Oecon Posnan 1(8):33–42
- Masztalerz M (2015) Communication in management accounting. Prace Nauk Uniw Ekon Wroc=Res Pap Wroc Univ Econ 399:343–351. https://doi.org/10.15611/pn.2015.399.33
- Merkl-Davies DM, Brennan NM (2017) A theoretical framework of external accounting communication: research perspectives, traditions, and theories. Account Audit Account J 30(2):433–469. https://doi.org/10.1108/AAAJ-04-2015-2039
- Mitchell F (2002) Research and practice in management accounting: improving integration and communication. Eur Account Rev 11(2):277–289. https://doi. org/10.1080/09638180020017087
- Mohamad B, Nguyen B, Melewar T, Gambetti R (2018) Antecedents and consequences of corporate communication management (CCM): an agenda for future research. Bottom Line 31(1):56–75. https://doi.org/10.1108/BL-09-2017-0028
- Mulyani SM, Djamhuri A, Nurkholis (2020) The critical perspective on standards cost of pricing decision on printing money in frame of Habermas theory. Eurasia: Econ Bus 7(37):3–9. https://doi.org/10.18551/econeurasia. 2020-07.01
- National Association of Accountants (1981) Definition of management accounting. Statements on management accounting. No. 1A. National Association of Accountants, New York
- Nørreklit L, Nørreklit H, Israelsen P (2006) The validity of management control topoi: towards constructivist pragmatism. Manag Account Res 17:42–71. https://doi.org/10.1016/j.mar.2005.04.002
- Oliveira C, Martins A, Camilleri MA, Jayantilal S (2021) Using the balanced scorecard for strategic communication and performance management. In:

 Camilleri MA (ed) Strategic corporate communication in the digital age.

 Emerald, Bingley, pp. 73–88
- Pierce B, O'Dea T (2003) Management accounting information and the needs of managers: perception of managers and accountants compared. Br Account Rev35:257-290. https://doi.org/10.1016/S0890-8389(03)00029-5
- Pärl Ü (2011) A semiotic alternative to communication in the processes in management accounting and control systems. Sign Syst Stud 39(1):183–208. https://doi.org/10.12697/SSS.2011.39.1.06
- Pärl Ü (2012a) Modelling communication processes in management accounting and control systems. Int J Crit Account 4(1):92–110
- Pärl Ü (2012b) Understanding the role of communication in the management accounting and control process. Tampere University Press, Finland
- Pärl Ü (2019) Models for: the relational constructivist approach to management accounting and control (MAC) research. Acta Balt Hist Philos Sci 7(1):121–134. https://doi.org/10.11590/abhps.2019.1.09
- Roberts J, Scapens R (1985) Accounting systems and systems of accountability
 —understanding accounting practices in their organisational contexts.

 Account Organ Soc 10(4):443–456. https://doi.org/10.1016/0361-3682(85)
 90005-4
- Rodríguez-Gutiérrez P (2021) Corporate communication and integrated reporting: the materiality determination process and stakeholder engagement in Spain. In: Camilleri MA (ed) Strategic corporate communication in the digital age, Emerald, Bingley, pp. 175–195.
- Sprinkle GB (2003) Perspectives on experimental research in managerial accounting. Account Organ Soc 28:287–318. https://doi.org/10.1016/S0361-3682(01)00058-7
- Ueeda M (2014) A preliminary study on the applicability of psychological and sociological approaches to accounting communication. Aoyama J Bus49(2):17–37
- Weißenberger BE, Holthoff G (2013) Cognitive style and connotative meaning in management accounting communication. J Manag Control 24:1–25. https:// doi.org/10.1007/s00187-013-0172-4
- Westelius A (1996) A study of patterns of communication in management accounting and control projects. Economic Research Institute, Stockholm School of Economics [Ekonomiska forskningsinstitutet vid Handelshögsk] EFI
- Williams A (1999) Communication accommodation theory and miscommunication: issues of awareness and communication dilemmas. Int J Appl Linguist 9(2):151–165. https://doi.org/10.1111/j.1473-4192.1999.tb00169.x
- Zafar SY, Currow D, Abernethy AP (2008) Defining best supportive care. J Clin Oncol 26(31):5139–5140. https://doi.org/10.1200/jco.2008.19.7491
- Van Riel CBM, Fombrun CJ (2007) Essentials of corporate communication: implementing practices for effective reputation management. Routledge, New York

Acknowledgements

This paper is a revised version of a presentation by The Japanese Association of Management Accounting The 1st Kansai and Chubu Sectional Meeting in FY2021 and 2022 Empirical Studies of Accounting and Finance Research in China Conference. Moreover, we received valuable comments from Dr. Kazunori Ito (Senshu University) and other researchers at the research meeting organised by Dr. Masakazu Kozakai (Tamagawa University). Finally, Dr. Ava Wu (The University of Sydney), Dr. Takashi Arae (Nihon

University), and Dr. Mu-Ho Liu (Nihon University) provided a lot of advice for this paper. We want to take this opportunity to thank them.

Competing interests

The authors declare no competing interests.

Ethical approval

This article does not contain any studies with human participants performed by any of the authors.

Informed consent

This article does not contain any studies with human participants performed by any of the authors

Additional information

Correspondence and requests for materials should be addressed to Moeki Nemoto.

Reprints and permission information is available at http://www.nature.com/reprints

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing,

adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/.

© The Author(s) 2022