Coebergh, Piet Hein (1); Schriemer, Martien (2); Cotton, Anne-Marie (3,10); Blaga, Monica (4); Pujol, Marc Compte (5); Anton, Anca (6); Sueldo, Mariana (7); Gonçalves, Gisela (8); Cuenca, Joan (9) Organisation(s): 1: University of Applied Sciences Leiden, Netherlands, The; 2: Inholland University of Applied Sciences; 3: Artevelde University of Applied Sciences; 4: Hanze University of Applied Sciences; 5: Universitat Oberta de Catalunya; 6: University of Bucharest; 7: ISM University Vilnius; 8: University of Beira Interior; 9: Blanquerna, Universidad Ramon Llull; 10: Université catholique de Louvain

Abstract

Purpose

As the importance of communication management rises, the need grows to understand its mechanisms. Remarkably, there is still little agreement on what communication is, let alone how to manage it. This paper aims to fill this gap in understanding communication management and improve clarity on how communication professionals contribute to organisational success.

Research design

Within organisational communication, it is commonly presumed that communication is intentional, serving organisational goals. Following this intentional paradigm, this article proposes Berlo's S-M-C-R model to define and analyse in an anatomical way what communication professionals do. This model is translated in 2018 into a survey that has been adopted and distributed by 12 universities in 9 countries in 3 continents and in 7 languages as of 2022.

Findings

Analysis shows that the survey around Berlo's model helps to identify how many communication professionals work in participating regions and industries. Furthermore, it can be assessed to what extent communication professionals make choices in communication management with organisational stakeholders. The "Berlo-score" is proposed to measure the decision making power of communication professionals.

Social implications

This approach substantiates theory and knowledge on how to manage organisational communication, offering guidance to teachers, researchers, managers, journalists and other stakeholders who want to understand how communication professionals contribute to organisational success.

Originality/value

Berlo's seminal theoretical model is made applicable for the work of communication professionals. Thereby, a framework for anatomical analysis of communication management is created. This new standard enables substantial international comparisons on what communication professionals do.

Introduction

As the world gets more connected, the importance of communication management rises. However, there is still little agreement on what communication is, let alone how to manage it. In a Swedish study, Falkheimer *et al.*(2017, p.91) state that "managers and coworkers find communication crucial for their organisations at a strategic level, but that the role of communication professionals is rather unclear." According to Zerfass and Volk (2018, p.405) "A "big picture" is missing in the profession" whereby "Communication professionals themselves seem to have difficulties describing the core contributions of communication". This lack of understanding can lead to distorted images of the profession, leading to less than optimal use of communication management. Critics see for instance public relations as an

attempt to hide the truth or to put a positive "spin" on bad news (Broom and Sha, 2013). In the Netherlands, a widely spun study suggested that communication professionals are primarily controlling reputation, for instance by spinning news and overwhelming journalists (Prenger *et al.*, 2011). To understand what communication professionals do, a definition of the field in which they work is necessary. However, communication appears difficult to define. Communication scholar Dance (1976) even identified 126 definitions of communication. Little convergence in defining communication has occurred since. Van Ruler states (2018), that "there has never been agreement on what "communication" or "to communicate" means". According to Littlejohn *et al.*, (2021), communication is defined in so many ways because it involves so many aspects of human experience. As communication professionals typically can be found working in or for organisations (Coebergh, 2015; Cornelissen, 2020; Tench *et al.*, 2017), an approach that defines communication from an organisational perspective is selected. Within this frame, the first research question is formulated:

RQ1. What model can define the work of a communication professional?

Organisational communication

There are various terms that define organisational communication, together comprising virtually any form of communication that is produced in or by an organisation (Jablin and Putnam, 2004). Focussing on what organisations want to achieve with communication, Hallahan (2004) labelled communication fields in organisations as "communication management", sometimes covered by the umbrella term "integrated communications". Cornelissen (2020, p.4) approaches organisational communication with the term "corporate communication", defined as "The function and process of managing communications between an organisation and important stakeholder groups (including markets and publics) in its environment". According to Argenti (1996), this management function grew in the 1970s out of "public relations", incorporating a whole range of emerging and specialized disciplines. Some authors still consider organisational communication with stakeholders, internal or external, to be "public relations" (Broom and Sha, 2013; Verhoeven et al., 2011; Tench et al, 2017). Also closely related is the research field "strategic communication", which is said to examine how organisations use communication purposefully to fulfil their mission (Hallahan et al., 2007). Altogether, Cornelissen (2020) observes that, because of various drivers, various disciplines in organisational communication do further integrate, independent of how they might be labelled.

The view of many communication theorists that communication is typically intentional, especially in mass communication, is rooted in rhetorical theories in antiquity and Laswell's (1948) transmission-effect paradigm in modern times. Weaver (1949, p.3) defined communication as "the process through which one mind influences another". In Berlo's view, "we communicate to influence—to affect with intent" (1960, p.12). Dance (1967, p.289) defined communication "as the eliciting of a response". Convergence theory (Rogers and Kincaid, 1981, p.63) argues that through communication "participants create and share information with one another in order to reach a mutual understanding". Kellermann (1992, p.289) finds communication to be inherently purposeful, stating that "No reason to communicate exists apart from a dependence on others for need satisfaction. A communication is, consequently, purposive and goal-directed". Parks (1994, p.592) combines this purposive view with the ambition to influence, stating that: "Communication is inherently strategic and goal directed.". Furthermore, Paul (2011) states that communication is always a matter of influence, and that it is permissible to influence your public as long as it is not manipulation. Heath and Bryant (2013) found that persuasion is pervasive inside

organisations. Finally, Tench *et al.* (2017, p.XXI) quote Hallahan *et al.*, (2007) endorsing the agreement that: "organisations purposefully use communication to fulfil their missions". Some authors challenge however the notion that communication is always purposeful. Berlo (1977) himself recognized that human communication is often unintentional and nonlinear. Bowers and Bradac (1982) find that most researchers are vague or ambivalent regarding the matter of intentionality. Some authors even challenge whether organisations have clear intentions at all. Eisenberg and Goodall (2004, p.311) for example assert that success begins with strategy, but they observe that "Despite the importance of strategy, few organisations actually have one."

Whether called organisational communication, public relations, corporate communication, integrated communications, strategic communication or communication management, a common denominator is that organisations manage and integrate their communication with stakeholders to fulfil their goals (Verhoeven *et al.*, 2011). As this paper focuses on how communication professionals manage communication to support organisational goals, the term communication management is selected. We define communication management as: Managing the flow of intended messages between organisational stakeholders to serve organisational goals, thereby defining communication management as intentional. We take it that communication management is what communication professionals do. Professionally managing a flow of messages, from senders to receivers, and vice versa, through a selection of channels, is what distinguishes communication professionals from people who communicate in general – which is every human being.

Respecting doubts on whether organisations always communicate purposefully, we assume that organisations primarily aim to use communication, and therefore communication management, to influence stakeholders to fulfil organisational purposes. These purposes can be found in what an organisation communicates as vision, mission, purpose, goals, objectives and strategy (Coebergh, 2011). Whereas authors like Rosengren (2000) suggest that, above all, communication concerns the process of meaning creation, organisational purposes prove to be more prosaic, like gaining and keeping market share, preferably sustainably (Coebergh, 2022).

Communication management as a process

Organisational communication is often explained by information theory, famously developed by Shannon (1949), and systems theory or cybernetics, developed by Wiener (1948). According to Rogers and Valente (1993), Shannon's one-way model of communication ignited the field of communication theory and research and even became the dominant paradigm, providing a single, understandable specification of the main components in the communication act: Source, message, channel, receiver. Later on, Shannon's model was extended by adding feedback about the communication effects on the part of the receiver (Heath and Bryant, 2013). Berlo's (1977) incorporation of feedback into the communication process was a step in this direction. Rogers and Kincaid (1981) depicted communication in their convergence theory as a process in which individuals act as "transceivers", both transmitting and receiving information to reach common understanding. In general, communication is increasingly viewed as a process, rather than as an act (Rogers and Valente, 1993).

Cybernetics, the study of regulation and control via feedback, explains how units of a system interact to achieve their goals (Heath and Bryant, 2013). The fundamental systems-interactive paradigm of organisational analysis features the continual stages of input, throughput (processing), and output, which demonstrate the concept of openness/closedness, or transparency/ opacity. Openness increases the likelihood to survive and prosper, whereby more openness means more complexity to manage (Heath and Bryant, 2013). This systems

approach allows for analysis of communication management in different elements, albeit that they interact dynamically. In this approach, Berlo (1960) enriched and popularized Shannon's S–M–C–R model that contains the now standard concepts: (a) the communication source (the encoder), (b) the message, (c) the channel, and (d) the receiver (the decoder). Berlo (1960) states that his S-M-C-R model represents a continuous and simultaneous interaction of a large number of variables that are moving, changing, and affecting each other. Thus, interaction means that the source plays a role in the interpretation of the receiver in the context and situation in which the communication is taking place, even without having a conversation.

From transmission towards dialogue

If we assume that the purpose of communication management is to influence stakeholders to serve organisational goals, and that communication management is increasingly perceived as a process that pursues interaction, the question rises how organisations organise this function. According to Freeman, founder of stakeholder theory, organisations "need intensive communication and dialogue with stakeholders—not just those who are friendly" (Freeman, et al., 2007, p.56). Indeed, employees need to be found, instructed and motivated to be productive. Shareholders and customers need to be found and kept, preferably satisfied, to let the organisation be financially sustainable. Requests from government bodies and relevant NGO's need to be served, at least to keep a license to operate. In liberal economies, where stakeholders typically have the power to exercise rights against the organisation or to walk away, organisations are triggered to be engaged with stakeholders through dialogue to build and maintain support (Trompenaars and Coebergh, 2014; Coebergh, 2015). Distinguishing how organisations communicate with stakeholders, Grunig and Hunt (1984) famously defined four descriptors of public relations activity: press agentry/publicity, public information, two-way asymmetrical and two-way symmetrical. Similarly, from a corporate communication perspective (Cornelissen, 2020), organisational communication can be classified by observing that organisations either follow a one-way symmetrical model of communication (informational strategy), a two-way asymmetrical model of communication (persuasive strategy) and a two-way symmetrical model of communication (a dialogue strategy), depending on the salience (power, legitimacy and urgency) of the stakeholder. For the Netherlands, it is found that the top-75 publicly listed companies indeed increasingly use models like a materiality matrix, a connectivity matrix, or similar overviews to express how their organisation engages in dialogue with various stakeholders (Coebergh, 2021). Analysing how practitioners contribute to the overall effectiveness of the organisation by undertaking the communication management role, Grunig (1992) developed Excellence Theory. Considered to be the main normative theory of public relations, Excellence Theory prescribes how a public relations department should be structured and how it should operate. According to Excellence Theory, communication professionals should manage the following three elements: reconcile organisational goals with stakeholder goals; build long-term relationships with stakeholders; work on organisational goals as a member of the "dominant coalition" (Grunig, 1992; Grunig and Dozier, 2003). Another well-known framework for what communication professionals should deliver, defining "Commandments of excellent communication" (Tench et al., 2017) is The Comparative Excellence Framework for communication management. Tench et al. (2017) find that, to communicate effectively as an organisation, the organisation should be connected, being: globalized, mediatized and reflective. Secondly, the excellent communication department should be influential: embedded, datafied and strategized. Thirdly, excellent communication professionals should be ambitious: sagacious, linked and solid. Alternatively, Fuller et al.(2017) find that excellent performance in professional communication is characterized by competences which transcend normative technical skills or practical communication knowledge, thereby being:

self-aware, sensitive, expressive, strategic and seeing patterns. Looking at large organisations, Zerfass and Volk (2018) find that communication departments contribute to organisational success through deliverance, strategically and operationally, of the following activities: Convey and multiply; align and contribute; steer and manage; advise and coach. In sum, research what makes communication professionals or departments excellent is typically focussed on desired qualities and outcomes, many of which are quite general and valid for other professions as well. In addition, communication scholars and practitioners have developed a range of models to evaluate the output of communication management to support business goals - see Watson and Noble (2014), for a comprehensive overview for possible evaluation of public relations. However, there is still little known of the anatomy, the range of actual building blocks, that is supposed to deliver all this excellent performance in communication management. Furthermore, research on excellent communication management is typically realized without using a formal definition of a practitioner or communication professional or a communication theory to define the boundaries and anatomy of the job.

In search of a model that could shed light on the anatomy of communication management, Berlo's (1960) S-M-C-R model emerges. This model postulates that a message is designed to be received and to have an intended effect, which is in line with what corporate communication, public relations, strategic communication and communication management are about. When this process does not achieve the intended effect, it is said that a communication "breakdown" occurs. Smith (1970, pp.343–344) challenged the assumption that "To correct a communication breakdown one either repairs the system or replaces one of its parts". Smith finds that in communication, it is difficult to conceive how "parts" are to be replaced or repaired. If there is something like a "breakdown", senders can try to continue to communicate in the hope that the message may still be successful. Acknowledging this limitation of a systematic approach, a key advantage is of this anatomical analysis however that, as Heath and Bryant (2013, p.70) observe: "the process of communication can easily be segmented so that the contribution of each part may be examined".

In line with the urge to have a better understanding of communication management is about, the following arguments support the use Berlo's (1960) S-M-C-R model to analyse what communication professionals do. The S-M-C-R model:

- provides a universal and well-known theoretical foundation for analysis of communication management;
- is purposeful, aimed to create a response, just like communication management aims to serve organisational goals;
- fits different forms of engagement with receivers, or stakeholders. This engagement can range from linear transmission, corresponding with press agentry, towards a conversation or dialogue, corresponding with the two-way symmetrical model;
- allows for segmented analysis, thereby offering the opportunity to analyse the anatomy of communication management and create more insight.

Now that a model is selected to define the work of a communication professional, the opportunity emerges to count the number of communication professionals in a particular environment based on actual activities, rather than the job description. The following question therefore arises:

RQ2. How can the number of communication professionals in a certain region or industry be measured?

Methodology

The professorship "Public Relations & Transparency" of the University of Applied Sciences Leiden in 2017 launched the idea to define and research what communication professionals do. This idea was not only driven by the scientific gap concerning the anatomy of communication management but also by the constant drive to improve academic and professional education and training in communication. This research project was designed as follows.

Scope assessment

The Delphi method (Linstone and Turoff, 1975) was used to define the scope and focus of the research project. Members of the advisory committee of the school of communication of the University of Applied Sciences Leiden were invited to participate for that matter on July 10th, 2017. Their views were discussed in a facilitated and recorded dialogue. As for defining a communication professional, it was suggested that this concerns someone who is hired by one or more organisations to manage communication for at least twelve hours per week. This minimum is set by the Dutch government to measure employability. As for defining communication management, it was found that distinguishing communication management from other professions is about connecting the established key concepts in communication theory: Source, Message, Channel and Receiver. In addition, context is considered to be a key factor, as elements like culture, history, organisational size and industry are perceived to be influential for communication management.

Furthermore, a comprehensive selection of Dutch and international trade associations in communication was invited by email to participate in the project by giving their best estimates on the following three questions:

- How many communication professionals are active in the Netherlands?
- How many of your members do you consider to be a communication professional?
- How many members does your organisation have in the Netherlands?

The results primarily confirmed the observation that a "big picture" (Zerfass and Volk, 2018) is missing in the profession.

Creating the questionnaire

Within the defined scope that was assessed with the Delphi method, Berlo's (1960) S-M-C-R-model was selected as framework for a questionnaire to define and measure communication management. This framework is enriched with key insights of research on communication management, especially considering Excellence Theory (Grunig, 1992; Grunig and Dozier, 2003) and related studies. The questionnaire starts with a few questions on the background of the respondent, contrary to what is considered to be best practice in surveys (Markus and Oudemans, 2011; Schriemer, 2017). This is done to stress the focus on communication management before narrowing down into the S-M-C-R-model, thereby creating a logical sequence of the questions (Brinkman, 2014). To address the wide variety of disciplines that can be considered to be a form of communication management (Coebergh, 2015; Ruler, 2016), respondents are invited to give information on their function and the communication discipline(s) they manage. To build on research on what constitutes excellent communication management, respondents are asked to state their seniority, age, gender, education and years of experience. Exploring the extent to which respondents are connected with, or are part of, the dominant coalition within the organisation and therefore participating or not in the decision making process, respondents are asked for the job title of the person they report to, whether they are themselves member of a management board, and what key performance indicators they are accountable for.

The anatomy of communication management is explored in the survey by the key elements of Berlo's (1960) model. A source is considered by Berlo (1960, p.30) to be "some person or

group of persons with a purpose, a reason for engaging in communication". In the questionnaire, the term sender is used, referring to the human internal or external client of the respondent. Respondents are asked how many different senders they have worked with over the past 12 months.

According to Berlo (1960) a source has ideas that are translated into messages, which are sent to the receiver. In our approach, this process can be managed by a communication professional. By message we mean information to be conveyed to one or more recipients, on behalf of the sender. This can concern a wide variety of content. The questionnaire asks respondents how many different messages they have worked with over the past 12 months. Channels are typically defined as any means by which a message is sent by a source or obtained by a receiver. Berlo (1960) reasoned that every way people experience reality and interact with one another is a communication channel. In the questionnaire, the term channel refers to any means of communication, internal or external. A list of possible means and media (internal and external, paid, earned, shared, owned) is suggested in the questionnaire. Respondents are asked which internal and external channels of communication they have worked with over the past 12 months. Finally, the term receiver relates to any (individual) person in the questionnaire. This can be anyone who views, listens, reads, smells or feels a message – which could concern millions of people for an advertising commercial or a just a few people in case of more individual communication. Respondents are asked to add up the numbers of all different receivers they have addressed in their work over the past 12 months. After the assessment of the usage of S-M-C-R-variables, respondents are asked to assess the extent to which they have decision making power and make (work-related) choices in directing the S-M-C-R-interaction. Context is strongly influencing the S-M-C-R-model, being a factor in communication on which early process models exhibited little awareness (Heath and Bryant, 2013). In addition, there are historical and cultural factors in identifying and understanding common characteristics of communication management (Grunig and Dozier, 2003; Verhoeven and Tench, 2011). Focusing on context that appears to be relevant in communication management, respondents are asked to mention the organisation they work for, the industry this organisation mainly works in and the country where the practitioner works. Finally, respondents are invited to share what they see as three dominant developments communication management. They are also invited to give additional comments on the survey.

Implementing the questionnaire

The questionnaire was put online and tested through a series of face-to-face interviews in 2018 and 2019 by two researchers of the University of Applied Sciences Leiden, interviewing a range of professors, communication directors and representatives of Dutch trade associations in communication management. Through snowball sampling (Goodman, 1961), existing contacts were invited to recruit other experts from their acquaintances. This brought a selection of thought leaders in the communication industry to the table. In addition, these interviewees convinced a considerable number of their communication colleagues to fill in the questionnaire online. During this stage, the questionnaire was fine-tuned and improved into a series of improved versions, based on the feedback the researchers got from the interviews. Data from all versions were harmonized into one database. Respondents were found by cooperating with trade associations in communication such as Logeion, the largest Dutch trade organisation for communication professionals. The survey was also promoted through targeted campaigns in Linkedin and Facebook. As the questionnaire can be considered to be relatively long, there is a risk that a substantial percentage of potential respondents might not want to spend the time needed (Zee, 2007). It therefore proves to be helpful that most of the respondents are found and interviewed live through communication students of participating Universities. Students are stimulated by

their schools of communication at participating universities to connect with communication professionals, being the actual practitioners in the work field that the students analyse and are being trained for. The questionnaire can be filled in online, anonymously, 24/7. Data are stored in one database, managed by the research team from the University of Applied Sciences Leiden. Adhering to the code of conduct of MOA, the Dutch trade organisation and expert centre for marketing-insights, research and analytics, no data in the database can be connected with any respondent. This research design to measure the work of communication professionals is tested with the following question:

RQ3. How can the percentage of communication professionals of the working population for a given country be estimated?

Findings

To assess the total number of communication professionals in a given region or industry, the following breakdown into selections on the total (international) database is proposed. In this article, the example is set for the Netherlands, since the largest number of respondents was available from this country in 2022 since the start of this project.

- The number of unique companies in the dataset is used to estimate the average number of communication professionals for organisations in a certain industry. The estimate of the number of communication professionals in a particular organisation is based on the estimate by the first respondent in that organisation, since the first interview in any organisation is conducted with Computer Assisted Personal Interviewing (CAPI). This offers a better quality of answers (Kurniawan, 2018) than Computer Assisted Web Interviewing (CAWI), which is used for many of the subsequent interviews after the first interview in an organisation. The earliest date of an interview in any organisation is therefore used as the best estimate for the size that organisation as well as the estimated number of communication colleagues in that organisation. This established the following basis of unique organisations: n = 2291.
- From this selection, the number of respondents from the Netherlands is: n = 1230.
- Non-valid responses, including a large number of respondents who indicated not to know how many colleagues they have in general and/or as communication professional, are left out of the selection, leaving: n = 438.
- Respondents indicate to which industry their organisation belongs, following the
 European NACE-framework. Only NACE-industries with sample sizes of respondents
 n ≥ 30 are considered in this analysis (VanVoorhis and Morgan, 2007) to make reliable
 estimates on the amount of communication professionals in that particular industry. This
 leaves for the analysis: n = 313.

The data collection in this survey has been realized by stratified random sampling (Acharya et al., 2013). Post-stratification is used to correct for missing data (Bethlehem and Keller, 1987). Following Little (1993), weight $w_h = r \cdot P_h/r_h$ is computed for each sample case in post-stratum h, where r_h is the number of respondents in post-stratum h, P_h is the population proportion from a consensus, and r is the respondent sample size. Weights are scaled so that they sum up to the respondent sample size. Stratified sampling is limited to variables that are known for survey units prior to data collection (Bethlehem and Keller, 1987; Little, 1993). In this case the aim is to estimate the proportion of communication professionals in as many NACE-industries as possible. Therefore, the weights that are applied to the sampling data

mirrored to the actual amounts of the working population in all NACE-industries, as given by Statistics Netherlands (CBS). It is assumed that there is homogeneity within NACE-clusters (Bethlehem and Keller, 1987).

As the numbers of respondents for most NACE-industries are quite limited, there can be considerable error margins. However, these proportions do not significantly differ from each other. Based on this research design, set against a labour force in the Netherlands of 9.545 million in 2020, the percentage of communication professionals is estimated to be 1.4% of the working population, equalling 133630 communication professionals. The build-up to this estimate is listed in Table 1:

Table 1. Estimated numbers of communication professionals per NACE-code in The Netherlands (n=313).

NACE	$Sample^1$			Population ²	
		Labour	Communication		Labour
	Companies	force	professionals	Companies	force
	n	n	p (CI-95%)	n	n
C Manufacturing	19	300592	$0,4\% \ (\pm 0,03)$	76770	797000
G Wholesale and					
Retail Trade	66	107673	$1,6\% \ (\pm 0,03)$	271270	1517000
J Information and					
Communication	27	47207	$4,9\% \ (\pm 0,08)$	109990	329000
M Professional,					
Scientific and Technical					
Activities	98	104731	$3,8\% \ (\pm 0,04)$	401030	810000
N Administrative and					
Support Service					
Activities	23	66351	$1,3\% \ (\pm 0,05)$	95780	1171000
Q Human Health and					
Social Work Activities	49	205698	$0.7\% (\pm 0.02)$	199340	1525000
R Arts, Entertainment					
and Recreation	30	8113	5,9% (±0,08)	123020	176000
Total	313	840366	$1,4\% \ (\pm 0,01)$	1.277.200	6325000

¹ Numbers are weighted by NACE-population size.

Now that an approach is developed and tested to quantify the population communication professionals in a certain region or industry, the data from the survey offers a range of possibilities to analyse how the anatomy of communication management works. To have a better understanding of how communication professionals manage communication to contact stakeholders, the following question emerges:

RQ4. To what extent do communication professionals make choices in communication management with stakeholders?

After the required self-assessment to work at least twelve hours or more per week, respondents are asked to what extent they made choices during the last twelve months in the selection of their possible senders, media, channels and receivers. This offers an indication to what extent communication professionals have the opportunity to manage influence towards stakeholders. Respondents who did not claim to work twelve hours or more per week or who indicated they did not ever make a choice in one or more of the S-M-C-R-variables, are not considered to be a communication professional. It was found that around 50% of all

² Data retrieved from CBS (2020).

respondents indicated that they always made a choice considering each S-M-C-R-variable. Having obtained sufficient data on this question from the Netherlands, Suriname, Belgium and Spain, the results are listed and compared in Table 2:

Table 2 Choices in S-M-C-R (n= 2068).

S-C-M-R	The Netherlands	Suriname	Belgium	Spain n (%)	
S-M-C-R	n (%)	n (%)	n (%)		
Sender ¹					
Never	105 (7,0%	1 (7,1%)	37 (13,5%)	8 (2,8%)	
Sometimes	554 (37,09	%) 6 (42,9%)	70 (25,5%)	40 (14,2%)	
Often	102 (6,8%	0 (0,0%)	74 (26,9%)	113 (40,1%)	
Always	737 (49,29	%) 7 (50,0%)	94 (34,2%)	121 (42,9%)	
Medium ²					
Never	60 (4,0%	1 (7,1%)	5 (1,8%)	0 (0,0%)	
Sometimes	514 (34,39	%) 6 (42,9%)	29 (10,5%)	20 (7,1%)	
Often	139 (9,3%	0 (0,0%)	110 (40,0%)	112 (39,7%)	
Always	785 (52,49	%) 7 (50,0%)	131 (47,6%)	150 (53,2%)	
Channel ³					
Never	68 (4,5%	1 (7,1%)	6 (2,2%)	3 (1,1%)	
Sometimes	544 (36,39	%) 6 (42,9%)	39 (14,2%)	29 (10,3%)	
Often	113 (7,5%	0 (0,0%)	99 (36,0%)	121 (42,9%)	
Always	773 (51,69	%) 7 (50,0%)	131 (47,6%)	129 (45,7%)	
Receiver ⁴					
Never	78 (5,2%	1 (7,1%)	24 (8,7%)	10 (3,5%)	
Sometimes	557 (37,29	%) 6 (42,9%)	42 (15,3%)	36 (12,8%)	
Often	114 (7,6%	0 (0,0%)	92 (33,5%)	110 (39,0%)	
Always	748 (50,09	%) 7 (50,0%)	117 (42,5%)	126 (44,7%)	

Differences between countries are significant:

Table 2 shows that identified communication professionals acknowledge that they make a considerable amount of choices toward senders, messages, channels and receivers. This brings us to the following question in trying to categorize the complexities that arise with these choices in communication management:

RQ5. How can the decision making power of a communication professional be measured?

Berlo's (1960) model is perceived here, as in Table 2, as a model that either rarely, sometimes, frequently or always offers choices to communication professionals towards each of the S-M-C-R-variables. This makes that different levels of complexity, and thereby decision making power, can be scored. Following the scores of Table 2, the following points are given for the self-assessed number of times that communication professionals make

¹Sender $\chi^2(9) = 304.940$; p < 0.01.

²Medium $\chi^2(9) = 333.533$; p < 0.01.

³Channel $\chi^2(9) = 356.632$; p < 0.01.

⁴Receiver $\chi^2(9) = 305,505$; p < 0.01.

choices towards each variable in S-M-C-R: 0=never, 1=sometimes, 2=often, 3=always. The maximum score is therefore $3^4 = 81$. If a respondent self-assesses that zero choices have been made during the last twelve months towards one or more of the four S-M-C-R-variables, the score will be zero. We propose to call this multiplicative model the Berlo-score, see [1]:

[1]
$$B = \prod F_i / 81 = S \cdot M \cdot C \cdot R / 81$$

Division by $81 (= 3^4)$ creates a variable $0 \le B \le 1$, where 0 means the person is not a communication professional and 1 means the communication professional always takes all the decisions concerning senders, media, channels and receivers.

From the response from the Netherlands (n=1672), a total of 1497 valid responses are analysed. Of these respondents 8% are found not be a communication professional. There is a significant difference between Berlo-group means (n=1364) for the self-assessed organisational positions junior, medior, senior and management - see Table 3.

Table 3 Relationship Berlo-score with level function (n=1364)

Level function	Ве	Berlo-score ² B_i		Multiple c	Multiple comparisons ¹ (mean difference B_{ij})			
	n	$\overline{B_i}$	SE	Junior	Medior	Senior	Management	
Junior	225	0.327	0.03		0.163*	0.249*	0.271*	
Medior	286	0.490	0.03	-0.163*		0.086	0.108*	
Senior	332	0.575	0.03	-0.249*	-0.086		0.022	
Management	264	0.597	0.03	-0.271*	-0.108*	-0.022		

^{*} The mean difference is significant at the 0.05 level.

Differences in Table 3 are clear between junior level-functions and higher level-functions in terms of decision making power. The more senior a communication professional is, the more decision making power is exercised. The Berlo-score might therefore serve as a proxy for seniority.

Discussion

In this article we address the lack of clarity and consensus that characterises the work of communication professionals. Answering RQ1, whether a model can define the work of a communication professional, we propose Berlo's (1960) seminal S-M-C-R-model. As this model perceives communication to be intentional and nonlinear, it fits dominant thinking on organisational communication and communication management. In addition, Berlo's model offers an anatomical approach to communication, enabling detailed and quantifiable analysis to better understand how communication management can contribute to organisational success. Berlo's model has been translated into a survey that has been validated and distributed in 9 countries, in 3 continents, and 7 languages since 2018. The data collection allows for various studies on differences and similarities among communication professionals in the participating countries. For this article, we limit the results to some key findings, starting with RQ2, on how the number of communication professionals in a certain region or industry can be measured. We used stratified random sampling and post-stratification to correct for missing data. For the Netherlands, where we have the largest number of respondents so far, we estimate that 1,4% of the labour force is a communication professional, thereby answering RO3 for The Netherlands. Due to sampling and measuring error margins, this percentage is tentative. Looking at the essence of what communication

¹ Post hoc analysis: Bonferroni

 $^{2\}overline{B} = 0.508$; SE = 0.014. F(3; 1103) = 16.808; p < 0.01; $\eta^2 = 0.044$..

professionals do, namely managing the communication from sender to receiver, using a selection of messages and channels, we asked respondents to what extent they made choices towards the S-M-C-R-variables. Their answers, coming from four countries with substantial numbers of respondents, show that it is indeed quite common for communication professionals to make decisions on what sender, message, channel or receiver they work with. The answer to *RQ4* is therefore that communication professionals to a large extent make choices in communication management with organisational stakeholders. Finally, we propose the "Berlo-score" as an indication for the decision making power that a communication professional has in selecting a sender, message, channel or receiver. We found that this Berlo-score is higher among senior communication professionals, as could be expected.

It is clear that more respondents are needed to make a more precise analysis of the number of communication professionals in participating countries and industries. As the number of respondents in the database is growing, detailed analysis will be possible on differences and similarities among communication disciplines, among industries and among countries. Differences and similarities can also be found in future research on the use of internal and external media, accountability, education, experience, seniority, the Berlo-score and shared expectations of the future.

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