Towards a Cybernetics-Based Communication Framework for IT Governance

Jacques Coertze  
Nelson Mandela Metropolitan University  
jacques.coertze@gmail.com

Rossouw von Solms  
Nelson Mandela Metropolitan University  
rossouw.vonsolms@nmmu.ac.za

Abstract

Communication is a crucial part and, often, a thorny problem of organizational life. In the modern-day organization, individuals must exchange information continuously and rapidly throughout the chain of command, whether to offer evaluation, direction or control. No more is this true, then for the rapidly growing and evolving domain of IT governance. Unfortunately, communication failures between business and IT management continue to be an all too familiar sight. Whilst knowledge of this communication challenge has emerged, less attention has been devoted to identifying and understanding the underlying barriers, possible problems and causes of business/IT communication failure. This paper contributes to the above-mentioned concern by arguing that the domain of cybernetics may hold promise for understanding the underlying problems of the challenge. In particular, the concepts of transduction and pacing, could offer practical insight towards the creation of strategies or approaches for its resolution.

1. Introduction

Communication is likely the single most important factor that governs the success of the human race [38]. Particularly so, since we communicate daily with each other to express ideas, transfer information and even gain knowledge and understanding [17,54]. However, whilst this is true of our daily lives, it too is incontestable of modern-day organizations [69].

By its very nature, communication plays a pivotal role in both the success and failure of modern-day organizations [35]. That is, since they are consciously coordinated social units, composed of a group of people [69], which functions on a relatively continuous basis to achieve a common goal or set of goals [12]. Yet, an organization is only successful if co-ordination and control exists amongst the group of people that constitute it [60].

Whilst communication is thus critical, it may also be one of the root problems within modern-day organizations [38]. In fact, it is a common assumption that many of the problems organizations face, either individually or socially, may be the result of inadequate and faulty communication [37]. That is, since communicating effectively, appropriately and meaningfully is difficult [35].

In the domain of IT governance, individuals or parties from differing backgrounds, organizational positions and levels of knowledge and expertise contribute to the communication cycle [22]. Here, they must exchange information continuously and rapidly throughout the chain of command, whether to evaluate, direct or control the usage of IT in accord with the business vision [30,32].

Yet, each individual in this cycle may have a different mental model and understanding of the business environment [14]. Not to mention, they may have a differing appreciation of the importance, uses and needs of IT [47]. Furthermore, their success criteria and ‘operational language’ may differ widely [56]. Especially true of those residing at the upper echelons of decision-making as opposed to the lower level IT engineers [15].

When business management interact with IT management and personnel during the process of IT governance, there is potential for conflict or misunderstanding to arise, as different mental models are interacting [40]. That is, since the upper echelons operate based on a business value-oriented model [50], whereas IT engineers follow a more technical service-oriented model [70]. Therefore, it comes as no surprise that communication failures and misalignment between business and IT management continue to be an all too familiar sight [11,33,58].

Unfortunately, whilst knowledge of the importance of communication and its related challenges has emerged in IT governance literature [34,41], less attention has been devoted to identifying the underlying barriers, possible problems and causes of its failure.
To address this problem statement, and building on the work of Beer [1,2,3,4] and Millar [40,45], this paper presents an argument\(^1\) that the domain of cybernetics may hold promise for understanding the underlining problems of IT governance communication. In particular, the concepts of *transduction* and *pacing* could offer a foundation for gaining practical communication insights from a cybernetics perspective. These may ultimately culminate in the creation of strategies or approaches, which could offer guidance on how adequate communication between business and IT management personnel might be achieved during the process of IT governance [40,43].

Consequently, the paper aims to explore and investigate three main questions of interest:
1. How does communication take place within the IT governance process?
2. What are the common breakdown points in IT governance communication?
3. Are there cybernetics-based concepts or principles descriptive of these breakdown points?

The above-mentioned research objective and three questions dictate the layout of this paper. Therefore, appropriate sections addressing each question follows below.

2. IT Governance in the Organizational Setting

The term ‘governance’ originates from the Greek word *kybernan*, which means to steer or to be at the helm [40]. From an IT perspective, this suggests that IT governance is a phenomenon where business managers of an organization steers the current and future usage of IT by their subordinates [32].

IT governance is a recursive function occurring throughout an organization [21]. Thus, not only does the senior executives or board of directors perform this duty, but so too does their subordinates [40].

The framework [36], shown in Figure 1, reflects this reality as it shows that IT governance involve personnel at several levels or layers of an organization, right from the top, down to the bottom. It also shows how a general theme of directing and controlling is at the heart of IT governance [61].

\[^1\] This argument represent an exploratory search for artifacts and elements from other disciplines, which might be applicable and could form the basis for the future development of a research artifact. In light hereof, this paper forms part of the design and development phase of a design science research project being conducted according to the methodology outlined by Peffers et al. [48]

\[^2\] A third axis of communication also exists, known as lateral or horizontal communication. Although being crucial, most of this often occurs informally and remains largely invisible to the outside observer [35]. The authors omit it from the immediate discussion, yet acknowledge that it too faces the same problems and challenges as presented for the other two axes.
out” process downward through the hierarchy [64] – often referred to as a “cascade” [30]. In contrast, control communication flow in the opposite course from cascade, that is, upwards through the hierarchy [54,61], as people in the upper-echelons request information of personnel lower in the hierarchy [63].

2.1. Directing: The Cascade

The most common form of official communication in an organization is to cascade programs, initiatives, projects, technologies and news downward through the organizational hierarchy or social structure [54].

Typically, the cascade in IT governance starts with the governing body or board of directors whom has to indicate clearly the strategic vision of the business and the way in which all organizational assets should contribute thereto [20]. Such evaluations depend on several factors that may originate from both external and internal sources, including risks, regulatory aspects and stakeholder requirements [9,31]. These factors, in turn, produce a set of business goals and strategic objectives [30]. When communicated, these offer direction to those residing immediate below the governing body in the organization hierarchy – typically the executive management [61].

These goals and objectives reflect the expectations of the governing body in business-terms and become the primary source of information for all functions within the organization [10]. As a result, these goals and objectives should contribute to the business’s IT requirements and policies [30]. Upon receiving the business goals and objectives as input, executive management, typically establish a set of relevant policies for each business function [9]. Obviously, proper alignment of all resultant policies with the aforementioned goals and objectives is paramount [33].

However, certain functions require the translation of these goals and objectives into more suitable terms [20]. This is true of the IT function, since IT personnel operate based on a different viewpoint and modus operandi opposed to other business functions [45]. COBIT [30], for instance, highlights and offers clear guidance on how business goals should be translated to IT goals and ultimately IT processes.

Once established, these policies reflect the expectations of executive management as to what projects they want their subordinates to implement and accomplish [36]. These expectations are of course more detailed and specific than those provided by the business goals and objectives, but mutual alignment is again essential.

Subsequently, they communicate these policies to those responsible for each individual business function of the organization [61]. For IT, this implies IT managers [45]. At this time, these managers would attempt to determine what resources and assets are required to facilitate the implementation of IT policies, or then IT projects [36]. Based hereupon, they would make certain commodities available to IT personnel in the form of a budget, equipment and expertise.

Not surprisingly, the decided upon IT assets and resources will be those that the IT personnel will have to implement later on [36]. These may include the installation of new servers, computers or firewalls among others [30].

However, as mentioned earlier, communication also flows in the opposite direction from the cascade, that is, upwards through the hierarchy for IT governance purposes [61]. This is especially important, given that the upper-echelons would need assurance that their relevant forms of directives are being conformed and complied to by their subordinates [32].

2.2. Controlling: The Feedback Loop

Complementary to the cascade, is the feedback loop in an organization [8]. Like the cascade, the feedback loop is unidirectional, but it flows in the opposite direction, that is, from the bottom of the hierarchy upward [35]. Hereby, personnel at each level of the organization report or communicate information back to their superiors until reaching the top where the governing body reside [63]. Periodic reports, surveys, and reviews often feature in an organization for this purpose [35].

Typically, the feedback loop in IT governance starts with IT personnel extracting data throughout the organization concerning IT assets [61]. The primary focus here is to quantify or record the currently established IT architecture or infrastructure within the organization [36].

Once recorded, they report this information to IT managers. Upon receiving this, IT managers compare the IT architecture or infrastructure to the planned IT projects that would have resulted from the earlier established IT policies [36]. This comparison gives a sense of progress, performance and conformance concerning the IT operations or service catalog of the organization [30].

Again, once completed, they report the progress, performance and conformance to the executive management. At this time, executive management would try to determine whether their subordinates made progress towards achieving the governing
body’s earlier established business goals and objectives [36]. However, even more importantly, is that they would need to determine the business value that ultimately accrued from IT [32,61].

It is then the executive management’s responsibility to communicate the progress indicators and ultimate business value to the governing body, by means of a report or presentation during one of their board meetings [15].

What is clear from this discussion is that any information that goes out in either direction between the governing body and IT personnel, undergoes a process of continuous reconstruction and appropriation by the managerial personnel residing at each level of the organization [35,36]. Unfortunately, whilst this may appear trivial at first glance, it is often a great cause of communication failure and frustration [7,38].

Not surprisingly, the familiar IT governance framework, COBIT 5 [30], and international standard, ISO/IEC 38500 [32], have both made great strides in drawing attention and offering guidance in this regard.

A multitude of IT alignment literature have also featured over the years, drawing attention to the need for proper communication and coordination [10,24,41]. In fact, Luftman [5,41] indicates that proper communication is a prerequisite for alignment to mature, since it requires the effective exchange of ideas and a clear understanding developing between different individuals within the organizational setting.

That said, communication failures and misalignment between business management and IT personnel within the IT governance process continue to persist regardless [11,33,58]. To understand why this process may lead thereto, however, it is first necessary to understand how communication transpires between individuals.

3. Communication

Communication is a social process of the broadest relevance to the functioning of any organization [37]. In fact, many agree that no organization would exist if its members were unable to communicate and work together towards a common set of goals [35,54]. That is, since co-ordination and control would not be attainable [60].

3.1. Communication Theory

Several years ago, Dance [13] suggested there were as many as fifteen discrete meanings of the term ‘communication’. However, in the modern-day literature, most researchers agree that communication is the transfer of information from one party (the sender) to another (the receiver) and that there is a transfer of meaning [23,54].

The popular communication process model established by Shannon and Weaver [57] best illustrates this, since it reduces communication to a set of basic constituents that not only explain how communication happens, but also why it sometimes fails [19].

Shannon and Weaver’s model, shown in Figure 2, postulates that for individuals to transmit information it has to undergo several steps. First, a person, group, or organization (the information source) has to convert the originating information into a message. A transmitter then translates this message into signals and transmits it along lines or channels to the receiver. This receiver then converts the signals into a message again, which the receiving person, group, or organization then decodes and interprets.

**Figure 2. Communication Process Model [57]**
This model of information transmission ideally represents engineering communication, but in subsequent years, many domains, from telecommunications to biology, social sciences and human dialogue have adopted it [19].

The important elements forming part of this process, is that of the sender, receiver and message [57]. The assumption is that the message gets from the sender to the receiver and that he/she receives it as intended – that is, impute the same meaning to the message as the sender [54].

3.2. Co-Orientation Theory

With the above view, information contained in a message appear to exist in and of itself out there in the world, apart from the people who are thinking about it, talking about it, and using it [35]. Unfortunately, those who follow that metal model are likely to miss how the sender and receiver co-create the meaning of the message [55]. Taylor et al. [66] refers hereto as the co-orientation theory. Similarly, they may misconceive the likelihood that the meaning of the message could very well change if it were to pass through multiple levels in a chain of command [55].

To illustrate this concept, consider the following example: a vice president informs a general manager that an organization will be a billion dollar business by the middle of next year. To that figure, the vice president probably attaches a meaning of, ‘and that’s a wonderful thing – something we can all be proud of.’ This might well be a noble goal and maybe worth a promotion. However, the general manager might attach a different meaning, and focus instead on the sinking feeling that tells him it is in part up to him to make that happen.

Thus, communication is more than just transferring information – it is in fact an interactive process of co-constructive meaning making between people [39,66]. Not surprisingly, some authors refer to the communication process rather as a circuit, shown in Figure 3, where both the sender and receiver influence each other and thereby alter the shared meaning of the message or information together [53].

Resultant hereof, one might observe information to have passed from one person, or place, to another, and could say that communication has taken place [57]. However, this would be incorrect if the supporting mutual meaning making processes of negotiation, adaptation, and adoption was lacking [54]. That is, since words are never delivered or received in a vacuum – they are part of people’s experiences, positions and interests [35].

Figure 3. Communication Circuit [53]

Just think back to the childhood game of Rumor or Broken Telephone we used to play. Somebody whispered something in their neighbor’s ear who subsequently whispered it to their neighbor who did the same to the next person. Do you remember the laughter and squeals of delight when the last person revealed his interpretation of the original message? Often, the final message did not reflect the original version at the slightest. That is, since each person along the process reconstructed and appropriated the message before they communicated it to their neighbor.

That said, those residing in the upper-echelons of an organization might argue that IT governance communication does not take this form [35]. Nevertheless, upon closer inspection, it may be more akin thereto than some would want to admit [55].

Both directive and control communication in IT governance follow the natural flow of the chain of command [61], and require personnel at each level of the organization to make sense and apply meaning to the intentions of their superiors or subordinates before passing it along or internalizing it for further action [20]. This essentially creates a similar scenario to that experienced when playing the Rumor or Broken Telephone game.

To recapitulate, information does not have meaning in and of itself; people give it meaning [35]. They co-create meaning for information through negotiation, adaptation, and adoption [66]. Moreover, their experiences, viewpoints, operational language and relations to each other will influence the meaning they construct together [43]. Collectively this means that the meaning of a message, or then information, changes through time and space as it encounter
different parts of the organization where people interpret and use it according to their own needs [37,55].

Having explored the intricacies of communication, and how it takes form during the process of IT governance within an organization; it now becomes viable to investigate the probable barriers, possible problems and likely causes of its failure.

4. Communication Breakdowns in IT Governance

For any organization to achieve long-term sustainable success, it is essential that employees, in all elements that comprise it, fully understand the corporate objectives and work together in a properly controlled and coordinated way to ensure that they meet those objectives [33].

Today as IT has become an integral element in creating breakthrough business strategy, there is an urgent need for organizations to find ways not to distance themselves from IT, but to integrate IT more tightly into the business cycle, right from the upper-echelons [47]. Unfortunately, this is no easy proposition [11]. That is, since it requires the business and IT personnel to work together and continuously communicate information throughout the chain of command [30]. Should this not occur, then it is only logical that serious organizational problems will arise [33].

Weiner [68] defines cybernetics as the “study of control and communication in animals and machines”. However, in contemporary usage, cybernetics refers more broadly to the study of control and communication in systems, including socio-technical systems such as organizations [56].

Millar [45] argues that since governance and cybernetics are both concerned with the “control” of socio-technical systems, the discipline of cybernetics may prove a useful foundation for understanding the underlining concepts and principles of IT governance. This paper extends this argument, by maintaining that it could also explain the inner-workings of and likely problems with IT governance communication.

Beer [1,2,3], a prominent author within the cybernetics discipline, states that two notions are particularly important for the accumulation of successful communication [4]. These include those of transduction and pacing. In fact, both notions form part of Beer’s Viable System Model (VSM) [4], a tool useful for understanding the basis of governance [45].

4.1. Transduction

As discussed earlier, IT governance involve personnel at several levels or layers of an organization, right from the top, down to the bottom [36]. Yet, the individuals residing at each of these levels may have a different mental model and understanding of the environment [14]. Not to mention, they may have a differing appreciation of the importance, uses and needs of IT [47]. Furthermore, their success criteria and ‘operational language’ may differ widely [56].

Consider for example the governing body of an organization. These members are responsible for the overall well-being of the organization [62]. Therefore, the majority of their focus is on risks, business value and stakeholders [32]. Consequently, their operational language is usually primarily business-oriented [10]. It should also come as no surprise, that they would approach business decisions and directive communication from a more holistic and integrated viewpoint [49]. However, this is in sharp contrast to IT engineers normally residing at the lower-levels of the organizational hierarchy.

IT engineers are concerned with service delivery [6]. The majority of their focus is on keeping IT running without interruption on a daily basis [30]. They are responsible for the upkeep and maintenance of the IT infrastructure and architecture [36]. Consequently, their operational language is IT-oriented [10]. Further, their outlook is limited to their immediate surroundings and those departments that they serve [6].

Clearly, the likelihood for conflict or misalignment to arise during the IT governance process is astronomical [33]. This is understandable, since the language used by IT engineers in trying to resolve a problem on the production line in an organization that manufactures motor vehicles, would be quite different to the language spoken by the CIO or the directors at a board meeting. These ‘languages’ are likely to be mutually incomprehensible [15]. Therefore, one of the biggest threats to IT governance communication is that of translation or language [7,40].

When individuals from different levels in the organization interact, they need to ‘translate’ their concepts, directives and so forth into a language understood by the receiving personnel during communication [4]. The cybernetics field refers hereto as the process of ‘transduction’ [39].

4600
The etymological origin of the word transduction comes from the Latin noun *transductionem* / traducionem, derived from *transducere* / traducere “to change over, convert,” [25] a verb which itself originally meant, “to lead along or across, transfer,” from *trans-* “across” + *ducere* “to lead.” [26,27]

The French physicist Ampere was the first to appropriate the concept into academic literature, when he introduced the idea of a *transducer* in his early cybernetics works [45]. Some claim [65], however, that French philosopher Simondon might have used to term even prior hereto, when he wrote about the individuation process [59].

Today, though, several scientific disciplines use the concept to denote various processes of change in form and matter [65]. For instance, in molecular biology transduction denotes a specific event in which a virus carries new genetic material over into the DNA of bacteria [42].

Nevertheless, this example raises another peculiarity of transduction – reproduction. Mackenzie [42] argues that transduction is the reproduction of information, but cautions that it is an incomplete reproduction since not all information may have passed through. Therefore, transduction is a kind of reproduction, but it is also always a misprision, a creative misreading [4].

During the reproduction process some meaning, information or context may be lost. This then corresponds with how the authors interpret and use the concept in this paper and applies it to the IT governance phenomenon.

When IT directives cascade through an organization, each individual along the way has to translate them into the appropriate operational language. This translation process involves reproducing the information received in a directive into the language understood by the recipient and his/her subordinates and communicating it onwards. However, each time this occurs it distorts a portion of the original meaning.

As demonstrated by the *Rumor* game earlier, communication that passes through many points will almost certainly be distorted and lose much of whatever value it had originally. For a cascade to work, as intended, there must be no information breaks [69]. When there is a break, information may be lost or miscommunicated [54]. Unfortunately, in many organizations such breaks occur during the IT governance process [41].

Nichols [cited in 55], for example, indicate that the clarity and understanding of a directive between business and IT personnel may have decreased by as much as 80%, by the time that information has progressed down the organizational hierarchy. The same is also true of control communication flowing in the opposite direction.

Often the reports that reach the governing body do not contain much authentic or useful information. That is, since the requested information is usually of no value to the lower-level personnel who gather it nor are they necessarily aware of what the data will be used for later [35,54]. Similarly, subordinates often tell their superiors only what they want to hear, or withhold valuable information – perhaps because of fear or mistrust [69]. Thereby, filtering the information prior to the exchange based on their own selective perceptions [54]. Consequently, feedback reports often communicate less and less real information as they pass through the chain of command and time passes [35].

That said, Beer [4] cautions that it is often not the transduction process itself, which is problematic; rather it is the fact that the sender and receiver have not established a shared context and understanding prior thereto. Not surprisingly, Broadbent and Kitzis [7] note that stakeholders on both ends of the communication channel must take responsibility for ensuring a shared understanding of the information transmitted. Unfortunately, this is where the governing body and IT personnel may face another problem when dealing with the IT governance process, that of ‘pacing’ [43].

### 4.2. Pacing

Earlier this paper established that the meaning of a message or information is not inherent in itself. Rather, the sender and the receiver thereof co-construct the meaning through their interaction. Yet, for a mutual understanding and meaning to accrue, it is necessary for both parties to have sufficient background and understanding of each other’s mental models and context of operations within the organization [7]. In other words, they must understand ‘where each is coming from’. The cybernetics domain refers hereto as the notion of ‘pacing’ [44].

When we interact with others, we translate our model of the world into words and use these to attain our outcomes [23]. These words reflect our own views of the world [43]. Therefore, when people try to communicate, there is potential for conflict or misunderstanding to arise, as different models of the world are interacting [66].

This may explain why communication between the governing body and IT personnel often fail or is unsuccessful. Each party approaches the interaction from a different viewpoint [10] – the governing body from a business value-oriented stance, as opposed to
the contrasting technical service-oriented perspective of IT personnel [30].

Pacing is, therefore, a critical consideration to put these differing viewpoints in context [44]. Specifically, the governing body and IT personnel must align their perspectives, goals and so forth to correspond with each other during the communication [8]. Unfortunately, if this does not occur then it is unlikely that they can establish a shared context and meaning for messages or information to flow between them [7]. Not to mention, the transduction process would be extremely difficult to exercise properly [4].

Regrettably, few governing bodies and IT personnel in organizations heed this warning [33]. In fact, many do not take the time to establish such ‘a pace’ early in their interactions [44]. In addition, few governing bodies acknowledge or carry knowledge of IT personnel’s modus operandi [29,46]. Similarly, IT personnel seldom comprehend the true business value and contributions that their actions offer within the larger organizational scheme.

Just consider for example the modern-day governing body. Many authors suggest that an IT confidence or attention deficit exists among them [29,46,67]. That is, directors often acknowledge the importance of IT and would like to get involved and provide stronger IT oversight and/or direction, but do not know where to begin or how to proceed. Moreover, IT expertise seldom resides at this managerial level [47,52]; instead, there is a lot of focus on finance, law and business administration [50].

All of this leads to the following question: How can an organization establish an effective system of IT governance if, at the very apex of the governance structure, the governing body is unable to fulfill its critical responsibilities due to a failure to comprehend the complex IT challenges that the organization confronts? In addition, what if IT personnel cannot interpret and understand their role within the organization’s vision and mission as expressed in business-terms by the governing body. The answer is simply that it cannot. An organization can only achieve an effective system of IT governance, if proper transduction and pacing takes form between all individuals involved within the process [43,45].

Whilst publications like COBIT 5 [30] and ISO/IEC 38500 [32] have made significant strides in explaining what the governing body, and IT personnel should be addressing or doing as part of the IT governance process, they have shared little to nothing to date about transduction and pacing. That is, anything beyond the concepts of a cascade [20] and the requirement for alignment [10,58].

In fact, no known literature currently exists which shares strategies or methods as how to approach and implement transduction and/or pacing properly. Therefore, it is not surprising that Millar [45] argues ineffective transduction and pacing to plague modern organizations and that it continues to be a common source of IT governance communication breakdown.

Perhaps, using cybernetics as a foundation, IT governance researchers can better understand and ultimately remedy these communication breakdowns. Therefore, whilst these notions of transduction and pacing do not necessarily describe unknown or new phenomena within IT governance literature, they do prescribe an alternative perspective by which researchers can investigate them.

5. Conclusion

Communication forms a crucial component of every-day life [38]. Not only is this true of our personal lives, but so too of modern-day organizations [54]. That is, since communication is vital to express ideas, transfer information and even gain knowledge and understanding [17].

Unfortunately, whilst communication is critical, it is also often a thorny problem within our organizations [35]. In fact, it is a common assumption that many of the problems organizations face, either individually or socially, may be the result of inadequate and faulty communication [38]. That is, since communicating effectively, appropriately and meaningfully is difficult [35].

IT governance requires individuals from differing backgrounds, organizational positions and levels of knowledge and expertise to contribute to the communication cycle [22]. Here, they must exchange information continuously and rapidly throughout the chain of command [36]. Yet, each individual may have a different mental model and understanding of the environment [14]. Not to mention, they may have a differing appreciation of the importance, uses and needs of IT [47]. Furthermore, their success criteria and ‘operational language’ may differ widely [56].

Consequently, this paper argued that proper and adequate communication within the IT governance domain is often no easy task. Regrettably, it found that whilst knowledge of the importance of communication has emerged in IT governance literature, less attention has been devoted to understanding the barriers, possible problems and causes of its failure.

To contribute, this paper explored and investigated three questions of interest:
1. How does communication take place within the IT governance process?
2. What are the common breakdown points in IT governance communication?
3. Are there cybernetics-based concepts or principles descriptive of these breakdown points?

To address these concerns, the paper first explored the IT governance phenomenon within the organizational setting. Herewith, it highlighted that an organization typically consists of several managerial levels, and that IT governance communication occurs recursively throughout them. Based hereupon, it continued to emphasize that a general theme of directing and controlling is at the heart of IT governance. However, the paper cautioned that communication and coordination is crucial to achieving this.

Subsequently, it offered an in-depth investigation of communication and its related concepts. In doing so, it found that information does not have meaning in and of itself, but that people give it meaning. They co-create meaning for information through negotiation, adaptation, and adoption. In addition, their experiences, viewpoints, operational language and relations to each other influence the meaning they construct together.

Collectively this meant that the meaning of a message, or then information, changes through time and space as it encounter different parts of the organization where people interpret and use it according to their own needs. This correlated with the communication process for IT governance.

However, the paper found that this process faced several challenges. Amongst the most prominent of these challenges, is the challenge of language translation and mutual understanding between business management and IT personnel. Both, where shown to be common communication breakdown points within the IT governance process.

Having identified these breakdown points, the paper next drew a parallel to the notions of transduction [4] and pacing [43] from the cybernetics field. Hereby, it showed that these two concepts do accurately reflect the problems experienced in IT governance communication.

In view hereof, the paper argued that the cybernetics field holds promise for understanding and possibly remedying the underlining problems of IT governance communication. Yet, no known literature exists which have explored IT governance communication in this light. Therefore, an opportunity for future research exists.

The authors of this paper intent to explore this research avenue further in hope that it will lead to the creation of a communication framework, which can offer guidance to organizations on how they can achieve adequate communication between their business and IT management personnel for IT governance purposes.

6. Acknowledgment

The authors hereby acknowledge the financial assistance of the National Research Foundation (NRF) towards this research. Opinions expressed and conclusions arrived at, are those of the authors and not necessarily the NRF.

7. References


[38] Ladd, S., Whinney, S., Moon, G., Quy, R., and Field, A. Is poor organisational communication a symptom or a cause, or perhaps both? (1966), 1–23.


