Social Construction of Technology in Organizational Communication

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Introduction

The development of technology and innovation is assumed to change the human communication behavior and even alter the communication process like computer-mediated communication that affects interpersonal relationships in the personal and professional life of an individual (West and Turner, 2010: 524), including in organizational life. Within organizational context, the expectation of the use new communication technology in order to improve productivity and efficiency by applying ideas to build interactivity and responsive networks between organizations and their publics (Cheney, 2004: 350) both internal and external public.

The environment of the modern organization has always been technological, but this has been understood in a number of distinct ways. For example, seen as collections of rationalized and instrumental practices, organizations themselves have been regarded as technologies in which effective information and communication processes are critical (Taylor, 1911, Thompson 1967 in Jackson, et al., 2001: 1). When it viewed from the Interactionist perspectives, the communication process occurs in a social context in which the interpretation, attitude and use of communication technology in an organization are built together in the social context. This condition alienates the organization from the assumptions of technological determinism which assumes that the new communications technology ‘determines’ what changes occur within the organization (Pace and Faules, 2005: 232). The view of technological determinism does not take into account that the behavior of organizational members, as human beings, requires the relationship and interpretation (Pace and Faules, 2005: 232) of technology which is constructed from social interactions between groups of organizations that brings closer into the perspective of the social construction of technology.

To those who work in organizations and use the new communication technology, sometime there may be the unplanned changes within the organization. The fundamental point is the communication process and communication technology is not perceived as an objective, value-free entities, but socially constructed (Rice 1992 in Pace and Faules, 2005: 233). It suggests that members of the organization have discretion in interpreting the technology used by organizations where such interpretation is usually the result of social construction. The discretion in interpreting this technology explicitly
leads to a concept of flexibility interpretive that refers to the social construction of technology approach (Pinch and Bijker 1984: 419).

**Literature Review**

Pinch and Bijker (1984:408) proposed the Social Construction of Technology (SCOT) to provide an understanding that research and technology are constructed socially in various social circumstances. The SCOT highlights the theory on how various social factors and power shape the technological development, changes, and meanings. The SCOT attempts to explain why and how certain technologies are adopted, while other technologies are rejected or never developed (Pinch and Bijker 1984: 411) with four main concepts: (1) flexibility interpretive; (2); social relevant group (3) closure and stabilization; and (4) the wider context (Klein and Kleinman, 2002: 29-30).

The key concept of SCOT is the interpretive flexibility and relevant social groups (Bijker, 2009: 68). Even Kline and Pinch (1999 in MacKenzie and Wajcman, 1999: 38) said that the interpretive flexibility as a distinctive feature of SCOT that claims that technological artifacts are open to different interpretations conveyed by various social groups. Technological artifacts open to being understood with different interpretations for different groups.

A technological artifact is described through the view of the relevant social group in which this group describes a technology artifact when they explicitly give the meaning to the artifact. Thus, relevant social groups can be identified through the search for actors who mention technology artifacts in the same way (Bijker, 2009: 68). In determining which social groups are relevant, the first question is whether the technological artifacts are meaningful to the members of the social group under study. Clearly, the social groups of 'consumer' or 'user' of artifacts should meet this requirement (Pinch and Bijker 1984: 414-415).

The third concept is closure and stabilization. Both concepts are meant to describe the result of the process of social construction. ‘Stabilization’ stresses the process character, a process of social construction can take several years in which the degree of stabilization slowly increases up to the moment of closure. Meanwhile, Closure highlights the irreversible endpoint of a discordant process in which several artifacts existed next to each other (Bijker, 2009:69).

The fourth concept is the wider context. It is the wider socio-cultural and political milieu in which artifact development takes place. But, it plays a minor in Pinch and Bijker's original conception of SCOT (Klein dan Kleinman, 2002:30). SCOT is used to describe technology artifacts by focusing on the meanings given to artifacts by relevant social groups. The socio-cultural and social-political situations construct the norms and values that ultimately influence the meaning given to an artifact by the social group (Octavianto, 2015: 54).
Research Methodology

This study uses Secondary Analysis Data to explore the SCOT with the purpose to gain the new perspective. Heaton (2004 in Andrews, et.al, 2012) defines secondary data analysis as ‘a research strategy which makes use of pre-existing quantitative data or pre-existing qualitative data for the purposes of investigating new questions or verifying previous studies’. In other words, secondary data analysis is the use of previously collected data, for some other purpose. The most common reason why researchers conduct a secondary data analysis is in order to re-analyze the data from a new perspective with a view to gaining new insights (Fielding, 2004 in Andrews, et.al, 2012). Secondary analysis of qualitative data can benefit the researcher intending to answer exploratory research questions or (re-)examine perceptions and experiences of a target audience (Windle, 2010 in Sherif, 2018). Qualitative secondary research, therefore, can generally broaden and deepen knowledge by stimulating a comprehensive understanding of the nature of an issue, especially when such issue is examined by the authors of pre-existing data (Sherif, 2018).

Results

Orliwkowski (2000) examined the use of technology and the formation of structures through the lens of practice to study technology within organizations. By adding a structural perspective, Orlikowski view that the use of technology as an enforcement process enables a deeper understanding of the constitutive role of social practice in the ongoing use and technological changes in the workplace. Technology-this practice is a structure that is defined through the use of technology on a recurring basis. They are not inherent in technology. Instead, they arise from the ongoing interactions technology use.

Jackson, et al (2001) examined the SCOT in workplace studies. The social constructionist perspective on technology has provided insight that led to the discussion that organizations must face increasingly technological workplace issues. Research on technology in the workplace shows a fundamental shift in job characteristics, as computerized support requires the separation of work from the context. Technology support for organizational processes has gone far beyond the conceptualization of office automation to the point of enabling new processes, such as organizational learning.

Klein and Kleinman (2002) who examined the SCOT with structural considerations. Both argue that the social construction of technology makes only a limited contribution to describe the influence of social structures so it is important to explore the structural considerations in understanding technological developments. The SCOT ignores the structural factors that affect the social group’s meaning system. The capacity of relevant social groups to shape artifact development will further enhance their access to economic resources. While the capacity of actors to shape policy outcomes stems from political access. This ability is significantly shaped by the organizational structure.
Humphreys (2005) developed the concept of interpretive flexibility into three types of interrelated flexibility in the SCOT: (1) flexibility of language; (2) flexibility of uses; and (3) flexibility of structure. The Flexibility of language refers to the interpretive flexibility of an artifact. As explained by Pinch and Bijker, this is the idea that different social groups can have different meanings, as assigned through language, and the discourse about technological artifacts. The Flexibility of use refers to the idea that users can customize artifacts differently. Mackay and Gillespie (1992 in Humphreys, 2005: 243) suggest that technology offers a variety of possibilities for use. The more "open" an artifact, the more likely it is to use it. The flexibility of structure is conceptualized based on the cognitive psychological model belongs to Eleanor Rosch. There are three levels of categorization with which people cognitively process objects as the basic, superordinate and subordinate level (Rosch, 1978: 10).

Meanwhile, the development of the relevant social groups has been conducted since there are some criticisms of Pinch and Bijker’s original concept. Clayton (2002, in Humphreys, 2005: 233) thought that the choice of relevant social groups is limited and simple. Humphreys (2005:234) identified four general categories of the relevant social groups: (1) producers; (2) advocates; (3) users and (4) bystanders. These social groups can be described based on their ownership of the interest in technology.

Conclusion

The Social Construction of Technology can be used to describe the process of sensemaking of technology use in organizational communication. The concept of interpretive flexibility and relevant social groups has an opportunity to show the active role of organizational members as the users to interpret the technology and provide feedback for technological development. When the users choose to use a technology, they are also choosing how to interact with that technology. Thus they may, deliberately or inadvertently, use it in ways not anticipated by the producers or developers of technology. They tend to have interpretive flexibility regarding what the technology will be used for. Whether the technology is used in accordance with developers of the technology or adapted to the interaction between the users and the technology itself. The addition of structural perspective to the SCOT framework is needed to explore the technology use in organizational communication. Organizational structure tends to play an important role in shaping the social interaction of technology use decisions in organizations either based on technical or non-technical decisions.

References

Journal article


**A book**

