

The Role of Information and Memory in shaping Organisational Improvisation

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ABSTRACT

Improvisation has recently emerged in managerial studies as a crucial element for organisations to survive. In the mean time, the role of information and memory within the organisation is also imperative in order to achieve improvisational actions. This study proposes an examination on the potential link between organisational improvisation and information and memory. Specifically the aim of this study is to identify the effect of organisational information and memory on organizational improvisation. Two hypotheses are put forward in order to achieve the aforementioned research goal. The research is expected to be beneficial to both relevant practitioners and theorists in the field of business management.

Keywords: organisational improvisation; information processing; real time information; organisational memory

I. INTRODUCTION

Organisational improvisation is a vital approach in today's business management because it can contribute to a meaningful decision within a limited timescale, without the best information and resources available (Leybourne, 2006). It is "*a mixture of the pre-composed and the spontaneous, just as organisational action mixes together some proportion of control with innovation, exploitation with exploration, routine with non-routine, automatic with controlled*" (Weick, 1998:551). It is an alternative to rigid thinking as it reflects the notion that something (action) is done or produced on the spur of the moment (Webber et al., 1999). Thus organisations improvise when they face a demand for speed and action in an unplanned yet unexpected event (Akgun and Lynn, 2002). Those demands could either originate from an internal source (enforced through leadership or members) or an external factor (enforced through external environment) (Moorman and Miner, 1998b; Vera and Crossan, 2005).

In reaching with a demand for speed and action, organizations need to significantly be in

synchronization with information processing within the organisation. The term 'information processes' refers the information flows occurring in and around organisations (Knight and Mc Daniel, 1979) which gathered and interpreted by organisations participants (Berente *et al.*, 2009). This information processing consists of locating/acquiring and capturing/ retrieving information which relates on organisation and stored/dissemination of information (Gioia and Manz, 1985; Anand *et al.*, 1998; Yang and Lynch, 2006). The accepted view of information processing in the management literature is that of Huber (1991). Huber (1991) discusses this as a four stage of process of information acquisition, distribution, interpretation and memory (storage).

In acquisition and retrieval phase, organisations seek some piece of information or knowledge. It may originate from inside the organisation (*e.g.* knowledge sharing and communications among employees through department's activities or meetings) or outside the organisation (external environment *e.g.* market or competitors). This information may be retrieved, disseminated or stored over computers or on paper. Upon acquiring and disseminating information or knowledge it is necessary to put meaning to it through interpretation, and preferably, shared interpretation. Information processing cannot happen without this stage. Raw information and perhaps combing with several pieces of information can be interpreted to reveal important facts or observations on competitors, customers, markets and so forth that can be then used in decision-making. However information processing is as yet not complete. When information is stored or disseminated and then interpreted, a number of employees within the organisation should be able to retrieve it over time; therefore information needs to be stored as part of *organisational memory*. Following these four stages, information has been processed and organisational learning is said to have then occurred (Huber, 1991).

The firm's awareness of these processes is significantly crucial as it could serve organisation in gaining the latest information about interdepartmental activities and the external environment; as well as the capability to keep records (memory) and managing the information system within the organisation. Scholars suggest that organisational information and organisational memory are the important elements that potentially trigger an organisation to improvise (Moorman and Miner, 1998b; Akgun and Lynn, 2002; Crossan *et al.*, 2005; Cunha and Cunha, 2006b, Leybourne, 2006). Hence, the aim of this study is to determine the effect of organisational information and organisational memory on organizational improvisation. The remainder of this study is organized as follows: Section II instigates the development of each hypothesis in which part A focuses on information and improvisation while part B addresses organizational memory and improvisation. Research contribution is illustrated in section III, and the study is then concluded in section IV.

II. THEORETICAL BACKGROUND AND PROPOSED HYPOTHESES

A. Organisational Information and Improvisation

Looking at improvisation in the theatre arena, most actors (improvisers) act through face-to-face communication where most of them must have the capability of expressing ideas and emotions using a wide range of information and communication channels in real-time (McKnight and Bontis, 2002). To some extent, this real-time information and communication process allows improvisation to function properly (McKnight and Bontis, 2002). When applied to the business context, this scenario illustrates that real time information within the organisation is imperative in order to achieve improvisational actions especially when managers have real-time information in hand, they will courageously improvise their business process to be suited to the intended strategy (Cunha *et al.*, 1999; McKnight and Bontis, 2002; Crossan *et al.*, 2005; Vera and Crossan, 2005; and Leybourne, 2006). For instance in Weick's (1998) study of the survival of a fire fighter, who had to improvise to save his life from the fire by using the information that he has learnt before the incident. This scenario can be depicted that there is the likelihood that information can affect organisational improvisational activities.

Organisational information in this study is therefore specifically referred to real time information. Real time information is the information about a firm's operations and environment for which there is little or no time lag between occurrence and reporting (Crossan *et al.*, 2005). Crossan *et al.* (2005) suggest that real-time information in firms can affect their resource allocation decisions mainly on plans if they lack background information about their external and internal contexts. This set of two categories relates to the information flow between the organisation and its environment; and the second relates to the intra-organisational information flows (Cunha *et al.*, 1999; Chelminski, 2007). These sets of factors are relevant to determine the degree and quality of improvisational activity within an organisation. In another empirical research study, Vera and Crossan (2005) state that real-time information has a positive moderating effect between improvisation and innovation.

Referring to Souchon and Hughes's (2007) study on export improvisation, export information overload does not show any significant effect on improvisation. Suggesting improvisation can be information light or intense but regardless, information will aid improvisation in some way and one cannot have too much information when taking an improvised decision which could support the statement by Leybourne (2006). Meanwhile, Moorman and Miner's (1998b) study on the relationship between real-time information flows and improvisation suggest different trade-offs for organisations. In this study, the researchers try to examine real-time flows influencing the 'incidence' and the 'effectiveness' of improvisation. The result demonstrates that real-time flows do not show any significant effect on the incidence of organisational improvisation. However, mixed results were found on the relationship between real-time flows and the effectiveness of improvisation (Moorman and Miner, 1998b). Organisational real-time information flows revealed a positive influence on the extent to which improvised new product actions influence design and market effectiveness (Moorman and Miner, 1998b). However, real-time flows do not have a positive influence on process outcomes such as the impact on cost and time efficiency, team learning (but exclude the condition of only when the real-time information flows are high) as well as team functioning (Moorman and Miner, 1998b).

In organisational change management, real-time information is imperative in order to achieve the

successful management of change processes (Leybourne, 2006). Besides, this factor could also be important to the management of the employees who are encouraged to improvise to achieve tasks and activities that support and trigger change (Leybourne, 2006). However, the results by Leybourne (2006) are hard to generalise to the whole population because his study was case study-based. Further, by referring back to previous empirical research, dubious results were found. There is still a lack of studies that focus on the direct relationship between real-time information and improvisation within organisations. Despite this, a positive relationship would be expected as set out beforehand. The following is then hypothesised:

Hypothesis 1: The greater the organisational real-time information, the stronger the organisational improvisation.

B. Organisational Memory and Improvisation

'Memory' is a factor that could be considered as an antecedent of improvisation. "*To improve improvisation is to improve memory, whether it is an individual, small group or organisational*" (Weick, 1998: 544). Organisational memory is the storage of skills and experiences (Akgun *et al.*, 2006) within the organisation and it represents learned ways of thinking and behaving and is often automatically activated in certain situations (Moorman and Miner, 1998b). Accordingly, one would expect instances of improvisation to increase as and when sufficient organisational memory can be relied upon. But, previous studies contend this assertion and prove that memory inhibits improvisational activities.

The study by Akgun *et al.* (2006) reveals that strong memory structure inhibits deviations from its previous knowledge store, thereby hindering improvisational activities. Comparable to this, Cunha *et al.* (1999) found that there is a significant relationship between a low procedural memory and firm improvisation. They notice that improvisations appear to only occur when an organisation/individual manager does not have an adequate routine/procedural memory to respond to an unexpected situation (Cunha *et al.*, 1999). That is, memory provides a capacity to respond to situations by replicating successful past actions as stored in memory, which consequently lowers the need to actually improvise. This is consistent with the research by Moorman and Miner (1998b) which

demonstrates that organisational memory has a negative effect on the incident of improvisation.

Vera and Crossan (2004) state that managers build their improvisational skills through exercise and lessons learned from the success and failures obtained in previous performances. The managers then absorb these lessons and store information in their mind, management information systems or databases and subsequently draw upon it when dealing with present improvisation (Vera and Crossan, 2004). Meanwhile, according to McKnight and Bontis (2002), improvisers build shared knowledge through tangible and intangible tacit knowledge which they draw upon. In an organisation, methods such as sophisticated technology (online company databases) and knowledge-sharing events (meetings or discussions) or simple bulletin boards and hardcopy documents can be developed to capture intellectual capital and make it accessible to all persons (McKnight and Bontis, 2002). Both assertions demonstrate the potential association on the significant effect between memory and improvisation; as revealed by Souchon and Hughes (2007)'s study which exhibits a direct positive significant effect between export memory and improvisation.

The contradictory findings in previous studies could well relate to the understanding of how organisational memory is stored; be it through procedural or declarative memory, which could possibly vary the value of improvisation (Moorman and Miner, 1998b). For instance, procedural memory is memory storage of skills, sequences of events, processes and routines such as team cooperation routines (Kyriakopolous, 2004). Following too rigid to procedures and routines may inhibit creativity and spontaneity and therefore could obstruct the improvisational process. A negative significant association between memory and improvisation as found in the work of Moorman and Miner (1998b and Akgun and Lynn (2002). These two studies reveal a negative significant association between memory and improvisation, thus signifying that the higher the procedural memory, the less the improvisation. Therefore, if organisations rely more on procedural memory, then it will be unlikely to embrace improvisation. The findings by Moorman and Miner (1998b) and Akgun and Lynn (2002) are supported by the work of Webb and Chevreau (2006) who state that organisational reliance on rules and procedures minimize the implementation of improvisation, since organisational members will

lose the ability to think creatively and handle new or uncertain situations (Webb and Chevreau, 2006). Declarative memory, by contrast, is “memory for facts, events, or propositions” (Cohen, 1991:137), which is more general in nature; and this memory may possibly promote to organizational improvisation. Declarative memory has a positive impact on the value of improvisation because “a critical dimension of declarative memory is the variety of uses to which it can be put [like]...making sense out of new situations, deriving meaning from unstructured situations, or using principles to predict outcomes” (Moorman and Miner, 1998:710). However, Vera and Crossan (2005) state that “*memory becomes a useful resource for improvisation because it is the result of the creative recombination of previously successful routines of knowledge and action*” (p: 209). This indicates that improvisation can be more effective and innovative solution when organisations have the capabilities to access and retrieved to such diverse memory resources (e.g. through procedural and declarative) (Vera and Crossan 2004; 2005).

As few extant researches have empirically tested the association between memory and improvisation, the direct relationship between organisational memory and its effect on improvisation is still in the infancy stage. Therefore the potential relationship between these variables is deserving of further study. For the purposes of this study, the following is then hypothesised:

Hypothesis 2: The greater the organisational memory (through procedural and declarative), the stronger the organisational improvisation.

III. RESEARCH FRAMEWORK

The proposed examination over possible relationships between independent and dependent variables via the aforementioned hypotheses is further illustrated in the following research framework diagram (Fig. 1):

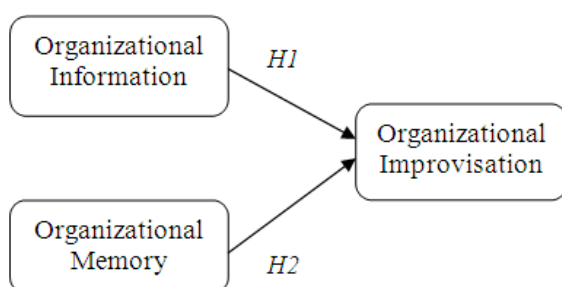


Fig 1: The Proposed Research Framework

III. EXPECTED CONTRIBUTIONS

Disparate studies in prior research, a lack of empirical studies on these elements and dubious/mixed empirical results on some relationships have given rise to the opportunity for the researcher to close this gap in knowledge and demonstrate the likely significant contribution of this research to theories and practitioners. For instance, this study contributes theoretically on the element of information and memory that drive improvisation (for example, see, Moorman and Miner, 1998b; Akgun and Lynn, 2002, Vera and Crossan, 2005; Leybourne and Sadler Smith, 2006; Chelminski, 2007). From this investigation, it is hoped that this study can provide a rational identification to the key antecedents of improvisation which are based upon information and memory. Real-time information is vital in improvisation in which organisation facing uncertain situation needs real-time decisions and solutions. Storage and retrieval system of information are also equally decisive. This means that both procedural and declarative memories, in which have been neglected in previous studies, are essential elements in shaping up organisational improvisation. In the mean time, this study is expected to benefit managers in making quicker and better decisions, especially when dealing with unexpected business situations. The application of improvisational approach could offer unique advantages to organisations such as enhancing firm outcomes (Leybourne and Sadler-Smith, 2006) and creating shareholder value (Mankins and Steele, 2006).

IV. CONCLUSION

The pursuit examination on the potential relationships between the aforementioned two constructs is reasonable given that improvisation normally involves making unplanned decisions and forming real-time actions, altering pre-planned activities and involving substantial creativity; while organizational memory, on the other hand, is about archiving ‘stored memory’ in order to respond quickly through improvisational activities. Nonetheless, this study is needed to empirically investigate these relationships. Findings of this study are expected to generate answers to the two proposed hypotheses and authenticate the above claims.

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