

# Exploring “affordances” as a lens for studying the adoption and intervention of IT-based innovations: The case of Knowledge Management

Kostas Samiotis

Aston Business School, Aston University, Aston Triangle, Birmingham B4 7ET, UK

k.samiotis@aston.ac.uk

## Abstract

This paper examines the business practice of Knowledge Management (KM) through the prism of managers' interpretations. Viewing KM as an IT based innovation, we trace such interpretations as they emerge during its adoption process. Research is situated in an in-depth, longitudinal case study of a KM intervention in a relatively large and complex organization. Analysis of those interpretations illustrates and supports that KM could be associated with meanings that reside beyond any technical or theoretical inscription. Managers construct these meanings through the study of the IT-artifact's features, the appreciation of the organizational context but mainly the perception of information that determine their relationship. This information is found in the organizational environment and could be used to anticipate potential adoption fit between the KM innovation and the organization but also the scope of the innovations' potential exploitations by the organization (intervention). Affordances are introduced in this research to account for that information.

*Keywords: Knowledge Management, Interpretive research, Affordances, Adoption, Intervention, Managerial cognition*

## 1. Introduction

Knowledge Management (KM), both as a business practice and academic discipline may not be in its infancy but certainly has not matured enough to allow for a solid interpretation of its applicability and its benefits for organizations. Ample attributions have been offered to enable understanding of the complex phenomena of knowledge creation and transfer as well as for the potential of IT in organizing and storing knowledge (Alavi and Leidner, 2001; Schultze and Boland, 2000). KM has also attracted research work to justify its necessity for competitiveness and to identify prerequisites for successful implementations (Bloodgood and Salisbury, 2001; Holsapple and Joshi, 2000). What is still missing from the research landscape is evidence of how organizations perceive KM as an intervention on its own right. This study aims to shed light on this undeveloped area, by reflecting on an adoption case study.

The notion of “affordances” is adopted in this study to address the capacity of KM, as an IT-based innovation, to invoke multiple interpretations and thus applications. In the original conception, affordances were used to address the numerous and different possibilities of action offered to living beings with regard to the layout of the (physical) environment and the objects attached to that (Gibson, 1986). Envisaging the IT-based innovation for KM as the object and the organization as the environment, several possibilities of use/action could be conveyed, the perception of which could be of great benefit to any adopting organizations. In a situation where KM's adoption decision is being assessed, managers are those organizational actors entrusted with the responsibility to perceive and consequently interpret the affordances that would determine the conditions and nature of KM use in the organization prior to the actual delivery of the technology in the workplace.

The paper's structure has been developed to accommodate both the understanding of the lens applied on the empirical context and the contribution of the emerged interpretations to KM. To serve its purposes, the paper unfolds in four major sections. The first section is devoted to the literature that is needed to understand the theoretical basis of our propositions and interpretations that lead to them. Next we enter the discussion of our methodology and empirical study. We conclude with a discussion of the role of affordances as an interpretive lens in the creation of appropriate managerial perceptions that determine the adoption decision and nature of use of potentially any IT-based innovation and in particular KM.

## 2. Literature background

The paper is primarily based on an interpretive case study. This means that there was no theoretical predisposition to drive the research inquiry. However, theory became useful at the later stages of the inquiry in order to identify its boundaries and to account for the actions of the observed organizational members. For these purposes, in this section we discuss the issue of managerial decision

making viewed as an interpretive, sense making process within the innovation decision process.

## 2.1 The “perceptive” character of decision making

In an increasingly complex and turbulent business environment (Drucker, 1993), issues of perception and interpretation in managerial decision making gain further ground over careful and predictive design. Perception is based on several cognitive means such as symbolism, metaphors, and mental models to complement the organizational rationalism and the value and belief systems on which the management of the organizational environment is based (Hill and Levenhagen, 1995). The interpretive functioning of managers is enacted especially when there is an open-ended, strategic issue is to be decided on. Innovation adoption embodies both a strategic issue, the innovation, and a decision, the adoption decision. As our empirical study focuses on the adoption phase of a KM IT-based innovation, it is important to understand the main underpinnings of managerial behavior and rationale in a situation like that.

At the core of this account lies the attribution of organizational functioning as an information processing system (Fiske and Taylor, 1991; Galbraith, 1977; Tushman and Nadler, 1978). Information processing is defined as the process of collecting data, transformation of the data to information and the communication and storage of the information in the organization (Tushman and Nadler, 1978). This view is substantiated by the assumption that organizational actors interpret and make sense of organizational issues under the influence of information residing either in the external environment or in previous experiences, value systems, and culture (Walsh, 1995). Another assumption is that mainly strategic-level managers formulate the organization’s interpretation and by achieving convergence they enable the organization to interpret as a system (Daft and Weick, 1984). Managers have to choose from different possible interpretations, each of them linked with different organizational actions and consequences for organizational effectiveness (Weick, 1979)

Interpretation in managerial cognition and decision making becomes prominent when targeting a strategic issue, i.e. when concerned with facts or events, which have not managed to reach the status of final decision (Dutton and Duncan, 1987) and might affect seriously the ability of the organization to meet its objectives (Ansoff, 1980). Strategic issues go beyond the tactical and operational boundaries and usually concern the entire

organization. They are also loosely structured and ambiguous (Lyles, 1981), which makes interpretation the only necessary processing mechanism. Another feature is that they don’t come in a pre-packaged form that managers can perceive resulting in a limited understanding (Dutton et al., 1983). The meaning that is assigned to them is eventually biased by cognitive influences and categorization conveniences (Dutton and Jackson, 1987). Interpretive choices of managers are driven by what is considered important to them following personal experiences and the conditions of the belonging constituency in the organization (Thomas et al., 1994). Within the field of strategic decision-making, interpretive accounts suggest an alternative proposition for decision making to the existing ones of bounded rationality or the garbage can model (Eisenhardt and Zbaracki, 1992).

## 2.3 The “affordance” lens

Affordances is a concept that was born in the ecological psychology by the perceptual psychologist J.J. Gibson (Gibson, 1986). He formulated a theory of affordances to describe the relationship between living beings and the physical environment, conceived as a set of mediums, surfaces and substances. In particular, he studied the effect of affordances on the choice of action relative to aspects of the environment and the object itself (Pavese and Buxbaum, 2002; Tucker and Ellis, 1998). Affordances, as analytical manifestations of relationships, don’t belong either to the environment or the subjects living in it, are however existent and perceivable. They exhibit three main properties (McGrenere and Ho, 2000): (a) an affordance exists relative to the action capabilities of a particular actor; (b) the existence of an affordance is independent of the actor’s ability to perceive it; (c) an affordance does not change as the needs and goals of the actor change.

To put in another way, affordances represent the sum of action possibilities. In Gibson’s theory, action is taken on by living beings with regard to environmental situations (medium, surfaces, and substances) or objects on the basis of affordances’ perception. To illustrate what the environment affords the actors, Gibson uses the nature of a terrestrial surface as to whether is rigid, flat, horizontal and extended enough to demonstrate that it affords *support*. For the substances, Gibson refers to water as being affordable to drinking as well as to pouring. As for the medium, he uses the example of air as a medium affording visual perception. When he discusses objects, Gibson talks about affording behaviors. As such he recognizes the *manufacture* and the *manipulation* i.e. the use of

sharp dihedral angle to cut if perceived as a knife or to strike and cut if perceived as an axe. Perception of affordances relies on the ability of the actors to read information in the environment indicating their existence. Their existence is independent from the experiences and culture of the actors whom perceptive capacity can though. Moreover, affordance theory is developed on the assumption that there are no fixed classes of objects, each of them determined by specific attributes and then given a name. Objects are only governed by a “family resemblance”. There is no need therefore to classify and label objects in order to perceive what they can afford (Gibson, 1986, p.134).

Another distinctive feature of affordances is their capacity to convey positive or negative offerings. In his theory, he refers to substances which might afford nutrition for some animals but poisoning for some others. In all his examples (Gibson, 1986 p. 137), Gibson makes the following statement: “...*all these benefits and injuries, these safeties and dangers, these positive and negative affordances are properties of things taken with reference to an observer but not properties of the experiences of the observer. They are not subjective values; they are not feelings of pleasure or pain added to neutral perceptions.*”

Pertinent to our study is also the element of “misinformation of affordances”. The problem lies when misinformation is picked up. According to Gibson misperception will result as a consequence. Mistaken perceptions will also lead to inappropriate actions. As an example, he refers to quicksand, which if perceived wrongly might put the perceiver in deep trouble (Gibson, 1986, p.142). For the correct perception, some learning should occur before we can see what things really are. Depending on the context where affordances are perceived this can be very difficult. Natural environment usually does not require excessive amount of learning. In politics though, a helpful-sounding politician could turn out to be a demagogue (Gibson, 1986, p.142). Moreover, affordances feature “relative capacity”, meaning the capacity to reveal different breadth of possible uses for an object or an issue in relation to the type of actor and the environment he lives in (Hutchby, 2001).

In this paper, Gibson’s theory is developed into a research lens for studying the perceptive mechanisms during the adoption of IT-based innovations. The power of embracing this perspective for the interpretation of managerial perceptions lies on the nature of affordances to be independent of any cognitive influences while

constituting objective representations of reality and the allowable interventions in it (Weick, 1979).

### 3. Methodology

Our propositions for KM are supported by evidence gathered in single longitudinal case study. The case study evolved in a Greek banking organization, NewBank, over a period of almost 2 years and reports on the organizational endeavor to adopt a KM IT-based innovation. The case study describes aspects of an innovation adoption project<sup>1</sup> dealing with the conceptualization of the innovation, its realization in a technical design and, subsequently, a software application, and finally the planning of its introduction in the workplace (in a ‘pilot’ implementation mode).

Data collection followed a hybrid pattern utilizing both conventional and informal methods. Occasions for data capture encountered as part of the formal research collaboration (either in bilateral or consortium meetings) during progress review meetings, requirements capturing meetings, consultation meetings, but also as part of the research inquiry during observations, formal interviews, as well as telephone conversations. In some cases these two streams of data collection were overlapping as for example in the case of project meetings, where we were taking notes while a member from NewBank was giving a presentation. Where possible, audio recording has been used but the majority of data comprise authors’ documentation of observations and reflection. As this may suggest a limitation of the study, we believe that such an immersive engagement wouldn’t have been achieved if we pursued full compliance with the formalities of a research inquiry.

NewBank was taking part in both the project and the inquiry with mainly managerial level executives i.e. managers, assistant managers and in some cases with tactical employees. Specifically, over the period of our case study we had the following people involved: one of NewBank’s vice presidents, the director, the marketing manager, a marketing employee and a technical development employee from e-banking division, the director and assistant director from Human resource Development (HRD) division, and the directors

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<sup>1</sup> The opportunity for investigating this theme occurred after a research collaboration of the bank with a European consortium set up to develop and implement a novel KM solution. The authors were members of a participating Greek academic partner in this consortium.

from the IT and internal organization division. Apart from them, we had fewer contacts with a variety of other members of NewBank (e.g. branch employees).

To get the most from our fieldwork, we had to mobilize all available data sources, i.e. interviews, observations of meetings (in most cases as members of them), documents. By triangulating our data, we not only assured the validity of our interpretations but we also captured a more holistic and contextual portrayal of the phenomenon under study (Jick, 1979). Within these data sources, we applied a grounded approach for the interpretation of our findings (Strauss and Corbin, 1998). Analysis was inductive and anchored on patterns observed in the data. Data analysis was actually motivated by two central angles. *The first angle of analysis has been informed by research that underlines the technological capacities of the KM artifact* i.e. storing, sharing, applying, etc. This lens was necessary to our analysis in order to anchor the design choices of the IT system. *The second angle of analysis has been managerial cognition* to account for the cognitive processes and structures that organizational members draw upon to make sense of organizational events.

#### 4. Findings

##### 4.2 The role of Affordances in the adoption process and decision

In their intense and prolonged involvement in the KM adoption process NewBank's managers revealed a number of concerns. These concerns referred to the ongoing anxiety of NewBank to make sure that the envisaged innovation would be able to align with the organization's *strategic aims, ongoing initiatives, human capacities, and workplace maturity*. Throughout the adoption process, we observed that NewBank members were driven by information that seemed to determine those concerns. We account for the existence of "affordances" as the information that affected the perceptive capacity of NewBank's managers and their sense-making activities with regards to environment and the IT-artifact.

In tandem with their original Gibsonian treatment (1986), we account for different types of affordances. Accordingly, we distinguish between the affordances of the environment and the affordances of the IT artifact (treated as object). The former ones were informing the perceivers of the environment's capacity to afford adoption of that particular innovation, while the latter ones of the IT artifact's capacity to sustain a number of

possible exploitations. We organize affordances for KM adoption with regard to the organizational environment in along 4 dimensions: the *strategic fit*, the *learning fit*, the *constituency fit*, and the *use fit*. We will show, in accordance with Gibson's (1986), how they exhibit elements of complementarity between actors and environment but also of provision for good or ill. On a different level of analysis, we will then concentrate on what the particular IT artifact afforded for the envisaged KM practice.

##### 4.2.1 Affording for the adoption of KM innovation

*Strategic fit:* KM was welcomed with enthusiasm and willingness to be explored and eventually exploited in NewBank. From the upper management echelons (vice president) to all involved actors in the e-banking and HRD divisions, KM was considered as a technological intervention which would enable and advance NewBank's strategic plans. Strategic affordances perceived in KM differed from actor to actor and in particular from division to division. Perceptions created by e-Banking managers of the strategic imperatives had the form of establishing a dynamic environment for offering new products and services. This was feeding into NewBank's plans for a technology-driven bank. KM was a support for this aspiration as it fulfilled several aspects of the envisaged e-banking operations. HRD's perception of these affordances, was translating into efforts for creating a competence-based organization. The proposed IT system was infused with assumptions for enabling learning and thus competence development.

Following the adequate perception of these affordances by NewBank's members, we can only assume that NewBank's environment afforded the adoption of the KM system. There were, however, conditions that could be argued as negatively influencing the adoption of such an innovation. NewBank's strategy dictated a relentless pace of introducing product and service innovations, while at the same time handling a delicate balance in maintaining operational efficiency and high levels of employee productivity through a cascade of internal change initiatives that had to go deep and affect the institutional structures of the organization. In this sense, organizational members quite probably misinterpreted the magnitude of the forthcoming changes implicated by KM and the effect they might have on the adoption of this innovation and thus misjudged the appropriateness of the innovation for the circumstances of the time. In essence, strategic affordances were 'read' into the perceived contents of the innovation but this

was not sufficient as discussion on subsequent 'fits' suggests.

*Learning Fit:* This organizational capacity to understand, share and promote strategic ideas has been acknowledged as the learning competence of the organization (Teece et al., 1997). Affordances encapsulating information about this competence refer to the capacity of the organization to accommodate the innovation within the existing organizational evolution path. Our study corroborates a two-fold perception of these affordances. Firstly, managers had to check whether the underlying propositions of the KM system could be absorbed by the environment and secondly, whether KM could contribute to it. Determinative to that is the maturity and experience of the organization with similar and other related ongoing practices. People from NewBank involved in the adoption of the system were constantly trying to increase their levels of awareness and knowledge for the upcoming intervention. Authors, as consultants, have been a continuous source of information, but soon after the system was installed in the organization the participating members were deriving knowledge directly from experimenting with it.

We observe affordances for a learning fit in the adoption of KM in NewBank in managers making direct associations of the IT system to existing organizational activities. As such, we recognize the HR organization reformation, and the technology-excellence initiative realized by e-Banking. In particular, KM for e-banking would support the activities of the new e-banking agent role while for HRD, it would enable the continuous professional development of the employees using it. Something that both divisions had in common was that they envisaged the development of new competences and practices through the use of the system. Manager's persistence in trying to adopt the KM system by accommodating it to the local requirements and circumstances is a sign of perceived fit with the learning prerequisites of the organization. There was no doubt also that these affordances too were pointing towards a positive adoption decision of the IT system, even though the premature nature of the learning conditions in the organization could have been signaling for its non-readiness to adopt KM.

*Constituency Fit:* What we name after constituency fit and its corresponding affordance refers to the ability of the organization to pull from its human resources pool, people who would best champion, exploit and make use of a particular intervention. In NewBank it became evident that an IT-based

innovation should get the attention of various organizational members and not necessarily the IS specialists alone. Constituencies' attendance in the adoption process occurred gradually and followed actors' knowledge accumulation levels about the innovation. It was e-Banking people who first appeared as the beneficiaries of this intervention, but soon emerged that this KM system had a wider and probably better audience in organization consisting mainly of people from the HRD division. Our case study also demonstrated the breadth that the constituency fit may entail with the involvement of the internal organization and IT divisions. NewBank members perceived sufficiently these affordances and rendered the organization environment affordable to the KM intervention. However and despite the identification of appropriate organizational constituencies, not all of them i.e. organization and IT division shared other divisions' priorities (e-banking and HR) for this innovation and thus not necessarily facilitated the adoption process.

*Use Fit:* Finally, adoption was tested against the potential users of the IT system. It was their work that would be mediated by the new IT artifact and thus was important to understand their feelings and preoccupations. The affordances informing of this fit, as we call it *use fit*, referred to the possible fit between the IT system and the mediated work context (workplace). The workplace comprises a complex set of human and non-human elements in which the IT artifact has to find a purposeful reason to exist. To allow this, the work context has to have the maturity and flexibility to accept any changes imposed by the system.

However, the workplace also comprises a deliberation of human activities as the ones imposed by the structured descriptions of business processes or any other predefined work representations i.e. roles. As such the work context cannot be predicted and any anticipation of technological mediation can be easily doomed. Managers dealt with the uncertainty of perceiving these affordances by exposing potential end users to the IT artifact (training). It was also helpful that people involved in the adoption process had adequate knowledge and grasp of the organizational workplace (HR people). At the same time, perceptions of the use affordances by the NewBank members seemed to be contradictory on the critical subject of whether the e-banking agent role was an appropriate application target for KM.

#### 4.2.2 Affording for the enactment of KM practice

Beyond the pertinent to the organizational environment adoption affordances, we also observed the perception of affordances related to the envisaged KM practices. The practices invoked by these affordances relate to the type of people participating in the adoption process and the vocabulary they use in their work context (Table 1).

The *retention of a business association between strategy and the workplace* comprised one of the most important requirements for KM in the case study, seeking to increase possibilities of interaction between the business functions of the organization with its shop-floor operations. In our case study, e-banking was continuously looking for ways to utilize KM as a communication channel between the people who were responsible for “selling” e-banking products and services to the final customers and the people responsible for their design and management. That way the daily encounter of work situations in the workplace could be monitored and problems resolved instantly. The IT artifact afforded this functionality through communication features i.e. email, chat, forum, etc. The envisaged scenario was also realizing e-Banking’s requirement to be able to communicate messages and information to its agents individually or on the whole. The IT artifact afforded the online participation of different parties i.e. employees and managers, and the synchronous and asynchronous transfer of information. Participants with administrative privileges could even alter pages content and have them updated on the spot.

sufficiently equipped with the appropriate features to afford the development of best practices.

The *enabling of strategic vision* refers to the efforts of the organization to establish its strategic orientations and imperatives through the development and diffusion of appropriate competences. The competence(s) that NewBank was trying to develop was that of “*à dynamic, technology-driven but also human-centric bank.*” Knowledge Management could be exploited to create an infrastructure and culture of competence driven operations and performance (Prahalad and Hamel, 1990; Spender, 1996). NewBank was trying to foster this environment by putting in place technologies (such the KM system) that would keep its employees continuously up-to-date with current business and technical developments of their job subject and would also allow them to improve their performance by sharing experiences with other colleagues. The proposed KM system seemed to afford this perspective as well.

The *creation of explicit abstractions of work practices* comprised the basis for the effective and efficient execution of work activities. Knowledge Management offers several possibilities for empowering those in the workplace, all of whom rely on its ability to capture knowledge (tacit and explicit) related to the performed tasks, the people who perform them and the resources required. NewBank used the KM system to represent the content and context of the new e-banking role. The representation was made using the structures

**Table 1: KM’s afforded practices/action possibilities**

The *best practices development* comprised a major organizational concern which sought to establish successful working tactics and methods. Organizations strongly support the improvement of their performance through the development and diffusion of best practices (Dooley et al., 2002). From a KM viewpoint, the development and diffusion of best practices comprises a knowledge process (Newell et al., 2003). NewBank was aiming at the development of best practices through the continuing use of the system. Specifically, the accumulation of knowledge from the workplace in the form of annotations or communication logs captured by the system would enable managers to reconsider and improve current practices. NewBank also saw best practices as carriers of knowledge and expertise to be used in the implementation of forthcoming strategic plans and in particular that of the “virtual bank”. The IT artifact was

		Organizational participants		
		e-Banking Managers	Human Resources Managers	e-banking Agents
Constructs of KM conception	Roles	retention of business association between strategy and workplace	creation of explicit abstractions of work practices	provision of work guidance
	Work Practices	best practices development	capturing individual and collective arrangements in the workplace	enabling knowledge processes
	Competences	enabling strategic vision	enabling the development of human resources	capturing work improvement requirements

offered by the system. Content-wise the system

afforded the description work in terms of processes and tasks, while context-wise it afforded the link of people and resources with specific aspects of the processes. Besides the static descriptive features, the system also allowed the capture of annotations. Annotations were comments made by the employees with regard to problems or experiences encountered in their job that complemented or contradicted the established work descriptions. Overall, the KM system was envisaged to afford the transformation of explicit to explicit knowledge, by combining different information elements, but also the transformation of tacit to explicit, by providing means to the users that would facilitate this process. Claims of tacit-to-tacit and explicit-to-tacit transformations cannot be made easily as the system never got to the stage of actual use (Nonaka, 1994).

The *capturing of individual and collective arrangements in the workplace* as well as the meanings assigned by the organizational actors to them is fundamental for the comprehension and support of the workplace (Bourdieu, 1990; Engeström, 1998). In theory, Knowledge Management is interested in the occasions of engagement of organizational actors with the processes of knowledge creation and exploitation (Brown et al., 1989). For the organization, comprehension of the workplace and its practices implies better design of the work activities and the roles in order to increase the likelihood of learning (Billet, 2001). In NewBank, this was the responsibility of the HRD division. They thought that the use of the KM system by the employees will reveal evidences of individual and collective behaviors but also gaps in provided knowledge that would allow them to target the learning activities better.

*Enabling the development of human resources* is highly related to any strategic shift an organization wishes to undertake. The view of organizations as a complex of resources and competences, which are rare, valuable, imperfectly imitable, and non-substitutable (Barney, 1991), is echoed in the human resource development practices in accordance (Wright and McMahan, 1992). The HRD division at NewBank had this in mind when engaged in the KM endeavor. The KM system could have been the medium for the development of the human resources along NewBank's envisaged competences. The KM system could also be used as a training/learning tool guiding its users through the tasks of their job. This aspect seemed of great importance to novice employees, as they could actually enjoy on-the-job training. As HRD people said, "*it is also a professional development tool.*"

The *provision of work guidance* is a concern of all employees and refers to the need of these people to have their actions reconfirmed according to what is perceived as an appropriate method of work. The issue is especially important for the newcomers in the workplace (Lave and Wenger, 1991); however, it concerns almost everyone in any working context. The aim is to address the necessity of developing knowledge representations and have them stored in technological means, where they can be easily accessed. The technical endowments of KM and of the KM system at NewBank in particular offered the possibility of rich representations (Sutton, 2001).

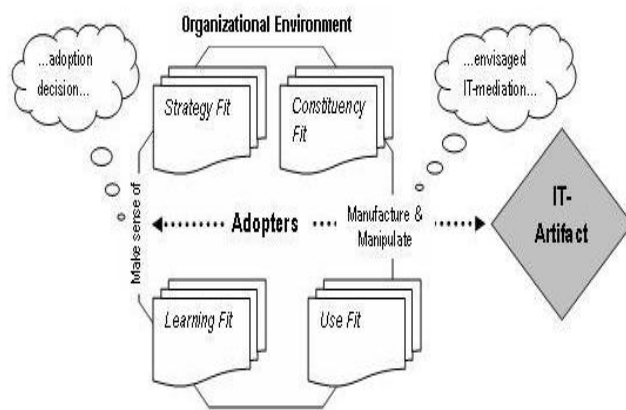
The *enabling of knowledge processes* constitutes the basic and most common intervention of Knowledge Management in the workplace and refers to the creation, storage/retrieval, and transfer of knowledge from organizational actors (Alavi and Leidner, 2001). KM enables these processes so much at the collective level by promoting occasions for socialization where knowledge springs from community arrangements (Brown J. and Duguid, 1991) as at the individual level by offering means for capturing tacit knowledge i.e. annotations, and creating provisions for internalizing to occur i.e. appropriate forms of representation. The proposed KM system was making the promise for enabling knowledge processes to its potential users and they seemed to embrace it.

*Capturing work improvement requirements* comprises an employee-driven necessity in order to maintain their levels of performance in their work. In essence, it's about listening to the problems of our employees. However, employees are not always good at articulating their problems let alone identifying them. Determinative to this is their understanding of the activities (know-that), the processes (know-how) and the principles (know-why) which govern their engagement with the work activities (Garud, 1997). At NewBank, the capture and accumulation of work-pertinent problems and experiences within the KM system would offer the people responsible for regulating the workplace i.e. HRD the possibility to redefine aspects of work that hinder employees' performance.

## 6. Conclusions

In this paper we have dealt with the process and content of managerial sense-making during the adoption of an IT-based innovation for KM (Fig. 1). We showed how managers assign meaning and value to the envisaged KM intervention. Managerial interpretations revealed a set of

practices that could realistically be employed in the organization. We believe, as most technological propositions for KM rely on similar constructs, that business organizations will benefit from the ideas found in these practices and will utilize them to explore and exploit new perspectives of KM's applications. Again, this is a development that is new to KM as current thinking is confined within the boundaries of either the features of the technology i.e. search, access, retrieval, storage, categorization, mining, or the theoretical imperatives of KM i.e. knowledge creation, transfer, collaboration, communities-of-practice, etc.



**Figure 1: The sense-making framework of affordances**

The paper also exhibits the role of affordances as alternative interpretive lens for making sense of complex IT-based innovations. Their distinctive strength over other established perceptive lens i.e. mental model and structures, is that they encapsulate information about dynamic and not predefined actors-environment and actors-objects relationships. Affordances were used to inform firstly the adoption decision of the IT artifact and secondly the understanding of the enabling KM practices built in the system. We identified 4 types of adoption affordances (*strategic fit, learning fit, constituency fit, and use fit*) and several scenarios of KM practice.

Our empirical inquiry generates interest for different accounts of KM but also for more work on the perceptive mechanisms that managers enact in adoption situations. On the KM front, current theorizations are challenged with the claim of not being directly actualizable. The emphasis in the future should be placed on developing ideas and propositions for KM that organizations could relate

with. We also believe that the more complex the IT-artifacts are becoming the greater will be the need for research endeavors that would try to decipher the hidden aspects of their interventions (Newell et al., 2000). As part of this process, research on perception should be revisited with fresher perspectives to address contemporary human behaviors. Affordances could be seen as a starting point, which needs though to survive the upcoming criticism ( Rappert, 2003).

## References

Alavi, M. and Leidner, D. E., "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues," *MIS Quarterly*, 2001;25(1):107-136.

Ansoff, I. H. "Strategic Issue Management," *Strategic Management Journal*, 1980;1(2):131-148.

Billet, S., "Learning through Work: Workplace Affordances and Individual Engagement," *Journal of Workplace Learning*, 2001;13(5):209-214.

Bloodgood J., Salisbury D. W., "Understanding the influence of organizational change strategies on information technology and knowledge management strategies", *Decision Support Systems*, 2001;31:55-69.

Bourdieu, P., *The Logic of Practice*, Cambridge: Polity Press, 1990.

Brown J. and Duguid P., "Organizational learning and communities-of-practice: toward a unified view of working, learning, and innovation," *Organization Science*, 1991;2(1):40-57.

Brown, J. S., Collins, A. and Duguid, P., "Situated Cognition and the Culture of Learning," *Educational Researcher*, 1989;18(1):32-4.

Barney, J., "Firm Resources and Competitive Advantage," *Journal of Management*, 1991;17(1):99-120.

Daft, R. L. and Weick, K. E., "Toward a Model of Organizations as Interpretations Systems," *Academy of Management Review*, 1984;9(2):284-295.

Dooley, K. J., Subra, A. and Anderson, J., "Adoption Rates and Patterns of Best Practices in New Product Development," *International Journal of Innovation Management*, 2002;6(1):85-103.

- Drucker, P. F., *Post-Capitalist Society*, New York, NY: HarperCollins, 1993.
- Dutton, E. J. and Jackson, E. S., "Categorizing Strategic Issues: Links to Organizational Action," *Academy of Management Review*, 1987;12(1):76-90.
- Dutton, J. E. and Duncan, R. B., "The Creation of Momentum for Change through the Process of Strategic Issue Diagnosis," *Strategic Management Journal*, 1987;8(3):279-295.
- Dutton, E. J., Fahey, L., and Narayanan, K. V., "Toward Understanding Strategic Issue Diagnosis," *Strategic Management Journal*, 1983;4(4):307-323.
- Eisenhardt, K. M. and Zbaracki, M. J., "Strategic Decision Making," *Strategic Management Journal*, 1992;13:17-37.
- Engeström, Y., "Activity Theory and Individual and Social Transformation". In Engeström, Miettinen and Punamäki [eds.], *Perspectives on Activity Theory*. New York: Cambridge University Press, 1998.
- Fiske, S. T. and Taylor, S. E., *Social Cognition*, New York: McGraw-Hill, 1991.
- Galbraith, J. R., *Organization Design*, Addison-Wesley, Reading, Mass, 1977.
- Garud, R., "On the distinction between know-how, know-why and know-what in technological systems" in J. Walsh and A. Huff (eds.) *Advances in Strategic Management*, JAI Press, 1997, pp. 81-101.
- Gibson, J. J., *The Ecological Approach to Visual Perception*, Lawrence Erlbaum Associates, Inc., 1986 (originally published in 1979).
- Hill, R. C., and Levenhagen, M., "Metaphors and Mental Models: Sensemaking and Sensegiving in Innovative and Entrepreneurial Activities," *Journal of Management*, 1995;21(6):1057-1074
- Holsapple, C. W. and Joshi, K. D., "An investigation of factors that influence the management of knowledge in organizations," *Journal of Strategic Information System*, 2000;9:235-261
- Hutchby, I., "Technologies, Texts and Affordances," *Sociology*, 2001;35(2):441-456.
- Jick, T. D., "Mixing Qualitative and Quantitative Methods: Triangulation in Action," *Administrative Science Quarterly*, 1979; 24 (4): 602-11.
- Lyles, A. M., "Formulating Strategic Problems: Empirical Analysis and Model Development," *Strategic Management Journal*, 1981;2(1):61-75.
- McGrenere, J. and Ho, W., "Affordances: Clarifying and evolving a concept," In *Proceedings of GI (Graphics Interface) 2000*, 2000:179-186.
- Newell, S., Edelman, L., Scarbrough, H., Swan, J. and Bresnen, M., "'Best practice' development and transfer in the NHS: the importance of process as well as product knowledge," *Health Services Management Research*, 2003;16(1):1-12.
- Newell, S., Swan, J. A. and Galliers, R. D., "A Knowledge-focused Perspective on the Diffusion and Adoption of Complex Information Technologies: The BPR Example," *Information Systems Journal*, 2000;10:239-259.
- Nonaka, I., *A Dynamic Theory of Organisational Knowledge Creation*, *Organisation Science*, 1994;5(1):14-37.
- Orlikowski, W., "Knowing in Practice: Enacting a Collective Capability in Distributed Organising," *Organization Science*, 2002;13(3):249-273.
- Østerlund, C. and Carlile, P., "Relations in Practice: Sorting Through Practice Theories on Knowledge Sharing in Complex Organizations," *The Information Society*, 2005;21:91-107.
- Pavese, A. and Buxbaum, L. J., "Action matters: The role of action plans and object affordances in selection for action," *Visual Cognition*, 2002;9(4/5):559-590.
- Prahalad, C. K. and Hamel, G. K., "The Core Competence of the Corporation," *Harvard Business Review*, 1990;68(3):79-91.
- Rappert, B., "Technologies, Texts and Possibilities: A Reply to Hutchby," *Sociology*, 2003;37(3):565-580.
- Schultze, U. and Boland, J. R., "Knowledge Management Technology and the Reproduction of Knowledge Work Practices," *Journal of Strategic Information Systems*, 2000;9(2):193-212.
- Spender, J. C., "Making Knowledge the Basis of a Dynamic Theory of the Firm," *Strategic*

Management Journal, 1996;17(Winter Special Issue):45-62.

Strauss, A., and Corbin, J., Basics of qualitative research: Techniques and procedures for developing grounded theory, 2nd edition, Thousand Oaks, CA: Sage, 1998.

Sutton, D. C., "What is knowledge and can it be managed," European Journal of Information Systems, 2001;10(2):80-88.

Teece, D., Pisano, G. and Shuen, A., "Dynamic Capabilities and Strategic Management," Strategic Management Journal, 1997;18(7):509-533.

Thomas, J. B., Shankster, L. J. And Mathieu, J. E., "Antecedents to Organizational Issue Interpretation: The Roles of Single-Level, Cross-Level, and Content-Cues," Academy of Management Journal, 1994;37(5):1252-1284.

Tucker, M. and Ellis, R., "On the relations between seen objects and components of potential actions," Journal of Experimental Psychology: Human Perception and Performance, 1998;24(3):830-846.

Tushman, L. M. and Nadler, A. D., "Information Processing as an Integrating Concept in Organizational Design," Academy of Management Review, 1978;3(3):613-624.

Walsh, J. P., "Managerial and Organizational Cognition: Notes from a Trip Down Memory Lane," Organization Science, 1995;6(3):280-321.

Weick, K .E., The Social Psychology of Organizing, Reading, MA: Addison-Wesley, 1979.

Wright, P. M., and McMahan, G. C., "Theoretical Perspectives for Strategic Human Resources Management," Journal of Management, 1992;18(2):295-320.