Linking Unlearning with Innovation through Organizational Memory and Technology

Juan-Gabriel Cegarra-Navarro[1], Gabriel Cepeda-Carrion[2], and Daniel Jimenez-Jimenez[3]
[1]Universidad Politécnica de Cartagena, Spain
[2]Universidad de Sevilla, Spain
[3]Universidad de Murcia, Spain
juan.cegarra@upct.es
gabi@us.es
danieljj@um.es

Abstract: While the information technologies provide organizational members with explicit concepts, such as writing instruction manuals, the 'organizational memory' provides individuals with tacit knowledge, such as systematic sets, routines and shared visions. This means that individuals within an organization learn by using both the organizational memory and the information technologies. They interact to reduce organizational information needs contributing to improve organizational innovativeness. However, the utilization of the organization memory or the technology infrastructure does not guarantee that appropriate information is used in appropriate circumstances or that information is appropriately updated. In other words, previous memories reflect a world that is only partially understood and assimilated, which might lead individuals to doing the wrong things right or the right things wrong. This paper examines the relative importance and significance of the existence of unlearning to the presence and nature of 'organizational memory and technology'. We further examine the effect of the existence of organizational memory and information technology on conditions that promote organizational innovativeness. These relationships are examined through an empirical investigation of 291 large Spanish companies. Our analysis found that if the organization considers the establishment of an unlearning culture as a prior step in the utilization of organization memory or the technology infrastructure through organizational innovativeness, then organization memory and technology have a positive influence on the conditions that stimulate organizational innovativeness.

Keywords: unlearning, technology, organizational memory, and innovation

1. Introduction

There are two types of storage 'bins': human and no-human (Cross and Baird, 2000). By storage 'bin', Tsang and Zabra mean "a location where information is stored" (2008: 1444). Organizations frequently increase their information base by using the organizational memory and the technology infrastructure. While organizational memory may be thought as being comprised of stocks of data, information and knowledge (the memories) that have been accumulated by an organization over its history (Walsh and Ungson, 1991), the technology infrastructure represents a collection of tools for capturing and sharing of people's knowledge, promote collaboration, and provide unhindered access to an extensive range of information (Zack, 1998).

If an organization wants to start its innovation culture by bringing together these two storage 'bins': human and no-human, then it should begin to remove the obstacles that inhibit the utilization of its organizational memory and its technology infrastructure. The accuracy of that memory and the technology structures under which that knowledge is distributed and used as a constraint become crucial characteristics of organizing. While the organizational memory is comprised of all active and historical information about an organization that is worth sharing, managing and preserving for later reuse (Megill, 1997), the technology infrastructure is responsible for maintaining the networks that organizational members use to run their activities, including the data centres and software that enable the information to be used as a platform upon which the decisions are made (Gold et al., 2001).

However, there is a problem with the arguments above in that technology tools, and therefore information and organizational memory, can become obsolete at both an explicit and tacit levels. Regarding this, the negative impacts of theories in use (in terms of biases in recall, belief systems and blind spots) on decision-making have been discussed by several authors (e.g. Larwood and Whitaker, 1997). In addition, technologies can also become obsolete (Gold et al., 2001). For instance, when a company decides to come up with a new version of Windows, some old software become obsolete, and some old hardware become too inadequate to support the requirements of the new version. As

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Tsang and Zabra, (2008) noted, the age of an organization often gives rise to ossified routines in organizational memory.

The renewal of organizational memory or the technology infrastructure requires what Akgün et al. (2007) refer to as the 'unlearning context,' that is, the context through which the management supports the proactive questions of existing assumptions and beliefs potentially leading to being ignored, modified, deleted or replaced. In this paper we propose that the result of this unlearning context will be the updated information stored in the organizational memory and shared by using technologies. Thus, this study aims to examine the impact of an organization's 'unlearning context' on the challenging of basic beliefs or processes that are explicitly or tacitly represented in organizational memory and technology systems. We also examine the effect of the existence of organizational memory and information technology on conditions that promote organizational innovativeness. In the following we examine the concepts discussed above and explore potential relationships between them.

2. Contextual framework

An environment's discontinuities are difficult for firms to manage because they demand different product architectures, they change the economics of the industry, destroy existing firm competences, create new value networks in which to compete and require technology investments with highly uncertain outcomes (Christensen and Rosenbloom, 1995). In this context, innovation is increasingly considered to be one of the key drivers of the long-term success of a firm in today's competitive markets. The reason is that companies with the capacity to innovate will be able to respond to environmental challenges faster and better than non-innovative companies (Damanpour and Gopalakrishnan, 1998). Innovation has been conceptualised in a variety of ways in the literature, depending on the perspective from which it has been studied. It has been considered as a process; a result of both and different types of innovation have been distinguished. According to Damanpour and Gopalakrishnan (1998), innovation could be understood as the adoption of a new idea or behaviour in an organization. Literature classifies innovation between technical and administrative innovations. Whereas technical innovations include new technologies, products and services, administrative ones refer to new procedures, policies and organizational forms (Dewar and Dutton, 1986). Similarly, organizational innovativeness characterizes an organization by being supportive and permeable to innovation in terms of developing new products or processes, opening new markets, or simply developing a new strategic direction (Wang and Ahmed, 2004).

As we have discussed above, organizational memory and technology infrastructure use different retention structures. On the one hand, the most obvious structures for encoding technologies include information systems such as corporate manuals, databases, filing systems, etc (Cross and Baird, 2000). These systems are continually being updated and analysed and are thus capable of generating new streams of information, thereby expanding knowledge (Zuboff, 1988). On the other hand, Walsh and Ungson (1991) suggest that organizational memory is 'represented' by many diverse aspects of an organization, for example: the organization's culture, transformations (production processes and work procedures), structure (formal organizational roles), ecology (physical work settings) and information archives (both internal and external to the organization).

It is obvious that all information stored in the organizational memory or the technology infrastructure does not stay there permanently. In this regard, researchers have taken several approaches to unlearning or forgetting (Akgün et al., 2007). On one hand, in situations where organizations and their members face changing environments it is necessary that the old 'knowledge' represented in the organizational memory be challenged prior to the addition of new knowledge (Akgün et al., 2007). This idea is recognized by Huber (1996), who suggested that the basic requirement for real learning consists of abandoning manners, experience, knowledge and beliefs that are vivid and were once useful, but are not valuable in the present. On the other hand, technology infrastructure can quickly become outdated as technology, personnel and business lines change, so regularly scheduled plan maintenance and regular testing are essential to ensure team leaders are familiar with the new technology and how it relates to the company's overall business (Gold et al., 2001).

The above considerations lead us to argue that for a given organization, both the organizational memory and the technology infrastructure, needs to be critically examined since it may no longer be relevant. The unlearning context, at its heart, attempts to reorientate organizational values, norms and/or behaviours by changing cognitive structures (Nystrom and Starbuck, 1984), mental models

(Day and Nedungadi, 1994), dominant logics (Bettis and Prahalad, 1995), and core assumptions which guide behaviour (Shaw and Perkins, 1991). If this is so, the context where unlearning can take place could be considered the genesis of a competitive advantage (Sinkula et al., 1997). According to Bogenrieder (2002), managers need to foster an unlearning context which opens the way for new habits, patterns, ways of doing and interpreting things to take place. To this end, Sinkula et al. (1997) propose that open-mindedness (i.e., a willingness to consider ideas and opinions that are new or different) is associated with the context of unlearning, through which the management supports the proactive questions of existing organizational routines, assumptions and beliefs potentially leading to being ignored, modified, deleted or replaced. Following Cegarra and Sanchez's (2008) suggestions, we identify the following three interaction processes that characterize an unlearning framework:

- The examination of lens fitting, which refers to an interruption of the employees' habitual, comfortable state of being, and it is through such framework that individuals of an organization will have access to new perceptions.
- The framework for changing the individual habits, which refers to the challenge of inhibiting wrong habits when an individual has not only understood the new idea, but is quite motivated to make the change.
- The framework for consolidating the emergent understandings, which refers to the organizational process that can free employees up to apply their talents by implementing new mental models based on adaptation to new knowledge structures.

Thus, we propose H_1 and H_2 based on the importance of unlearning old knowledge as a prior step to the utilisation of organizational memory and the technology infrastructure and of the negative consequences of yielding to inertial forces (Akgün et al., 2007). From this perspective, the unlearning process can be seen as the abandonment of practices that were dominant but are now standing in the way of new learning and therefore of organizational competitiveness. Therefore:

H_1: Unlearning process → Technology infrastructure

H_2: Unlearning process → Organizational memory

As noted above, an unlearning context fosters an interruption of the employees' habitual, comfortable state of being (e.g. identifying problems, initiating projects or introducing novelties). A sudden change in those habits forces individuals to reconsider their old basic attitudes toward customers, competitors, suppliers, etc. However, at this stage updated-knowledge (e.g. new meanings) is individual rather than social, and tacit rather than explicit. This knowledge then needs to be embedded through the organizational memory and the technology infrastructure in order to become a dominant design, otherwise innovation processes will not take place (Akgün et al., 2007). In this aim, new knowledge may be further 'consolidated' through the emergent understandings that are created by group members when they interact (Schein, 1992), or by new technological tools that may offer a better way to deliver information (Cross and Baird, 2000). Considering this, we argue that unlearning may have an indirect effect on innovation processes by providing support through the use of new technologies and by changing the ways individuals interact or come to interpret things. Regarding this, organizational memory and technology infrastructure have often been presented as constructs with beneficial effects on innovation processes of an organization. For example, scholars have argued that by routinizing search activities in the form of standard operating procedures, individuals can learn to become more efficient at performing them (Walsh and Dewar, 1987). Organizational memory and technology infrastructure can also provide support to individuals by retaining a broader range of potential responses, thus providing more options for organizational decision makers when they respond to the variety presented to them by changes in the organizational environment. March has asserted that 'for most purposes, good memories make good choices' (1972).

Since much of the organization's innovation is created as a consequence of the utilization of the organizational memory and the technology infrastructure interaction, it is likely to be no longer relevant due to outdated assumptions about the use of technologies. Therefore:

H_3: Technology infrastructure → Innovativeness

H_4: Organizational memory → innovativeness

3. Methodology

The population used in this study includes Spanish organizations with more than 100 employees. Like other studies on these topics, this study was designed to cover a wide range of industries (excluding the agricultural and construction sectors). 2,160 companies, from the SABI database, were located and contacted for participation. The information was collected via a postal survey directed to the R&D or innovation executive. The information-collecting period lasted from January to April 2008. The unit of analysis for this study was the company. 291 questionnaires were obtained. It is thus within the 10-20 percent average range for top-management survey response rates (Menon et al., 1996). Respondent and non-respondent companies were compared in terms of size and performance. No significant differences were found between those two groups, suggesting no response bias.

This study mainly used existing scales from literature. The questionnaire constructs comprised (see items in the Appendix):

We modelled 'unlearning context' as a formative second-order construct. We assessed 'unlearning context' by three first-order factors or dimensions: 'consolidation of emergent understandings', 'the examination of lens fitting', and 'the framework for changing individual habits'. The measures relating to the existence of a framework for 'consolidating the emergent understandings' scale consisted of 6 items taken from a scale designed by Cegarra and Sanchez (2008). To measure the framework for examining the lens fitting, 5 items were used. The final depurated scale consists of 4 items. We measured "the framework for changing individual habits" dimension through 7 items.

We adopt the formative way for our second-order construct. In this way, an increase in the level of each dimension does not imply an increase in the level of the other dimensions. The measures associated with technology are based on the infrastructure capabilities used by Gold, Malhotra, and Segars (2001). The initial scale comprises 7 items, but after the depuration process, 3 items formed this scale. Organizational Memory: We adopt a Chang and Cho (2008) scale comprises 4 items. Finally, we have used organizational innovativeness construct. Innovation has been measured in a variety of ways in previous research. In this study we measure how supportive and permeable to innovation the company is in terms of developing new products or processes. Hence, we focus on organizational innovativeness. According to Hurley and Hult (1998), innovativeness is understood as "the notion of openness to new ideas as an aspect of a firm's culture". In this paper, we measured innovativeness using a scale of 5 items adapted from Hurley and Hult. Three items make up this depurated scale.

The hypotheses were tested simultaneously using partial least squares (PLS), a structural equation modelling technique (Chin, 1998). PLS was selected due to the characteristics of our model and sample. Our model uses formative indicators and our data is non-normal. For hypothesis testing, we used the bootstrapping procedure recommended by Chin (1998). This study uses PLS-Graph software. Using PLS involves following a two-stage approach. The first step requires the assessment of the measurement model. This analysis is performed in relation to the attributes of individual item reliability, construct reliability, average variance extracted (AVE), and discriminant validity of the indicators of latent variables. For the second step, the structural model is evaluated. The objective of this is to confirm to what extent the causal relationships specified by the proposed model are consistent with the available data.

To analyse the relationships between the different constructs and their indicators, we have adopted the latent model perspective, in which the latent variable is understood to be the cause of the indicators and, therefore, we refer to reflective indicators for first-order constructs or dimensions. Three constructs in the model are operationalized as reflective, while one constructs: 'unlearning context,' is modelled as a second-order formative construct.

With regard to the measurement model, we began by assessing the individual item reliability (Table 1). The indicators exceed the accepted threshold of 0.707 for each factor loading (Carmines and Zeller, 1979). From an examination of the results shown in Table 1, we can state that all of the constructs are reliable. They present values for both Cronbach's alpha coefficient and for a composite reliability greater than the value of 0.8 for basic research (Nunnally, 1978). The AVE should be greater than 0.5, meaning that 50% or more variance of the indicators should be accounted for (Fornell and Larcker, 1981). All constructs of our model exceed this condition. We tested discriminant

validity in two ways; we have compared the square root of the AVE with the correlations among constructs, and we also reported the factor scores matrix in Table 1. On average, each construct relates more strongly to its own measures than to others.

Table 1: Factor loadings of rellective constructs

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	Understanding	Lens	Individual Habits	Innovation	O. Memory	Technology
p1v1	**0.829**	0.396	0.495	0.523	0.063	0.434
p1v2	**0.720**	0.415	0.354	0.475	0.226	0.346
p1v3	**0.828**	0.180	0.314	0.537	0.087	0.227
p1v4	**0.844**	0.467	0.537	0.497	0.063	0.501
p1v5	**0.845**	0.443	0.550	0.488	0.041	0.452
p1v6	**0.790**	0.476	0.678	0.441	0.145	0.472
p2v1	0.387	**0.791**	0.383	0.317	0.135	0.295
p2v2	0.235	**0.791**	0.233	0.191	0.102	0.138
p2v3	0.382	**0.802**	0.352	0.282	0.170	0.309
p2v4	0.454	**0.837**	0.503	0.389	0.086	0.367
p3v1	0.501	0.460	**0.822**	0.363	0.171	0.436
p3v2	0.459	0.422	**0.872**	0.320	0.078	0.365
p3v3	0.377	0.344	**0.871**	0.233	0.109	0.379
p3v4	0.487	0.381	**0.873**	0.311	0.029	0.352
p3v5	0.361	0.354	**0.845**	0.263	0.130	0.217
p3v6	0.425	0.359	**0.846**	0.310	0.055	0.242
p3v7	0.447	0.400	**0.760**	0.287	0.174	0.309
p6v1	0.503	0.379	0.400	**0.877**	0.189	0.347
p6v2	0.507	0.375	0.388	**0.887**	0.259	0.338
p6v3	0.412	0.253	0.326	**0.884**	0.297	0.356
p12v1	0.128	0.132	0.124	0.232	**0.821**	0.120
p12v2	0.080	0.126	0.092	0.247	**0.735**	0.111
p12v3	0.077	0.097	0.087	0.222	**0.715**	0.107
p12v4	0.165	0.152	0.124	0.283	**0.866**	0.171
p14v1	0.485	0.391	0.450	0.379	0.162	**0.906**
p14v2	0.538	0.409	0.497	0.383	0.179	**0.923**
p14v3	0.376	0.291	0.363	0.288	0.039	**0.831**

The evaluation of formative dimensions of the high-order construct: 'unlearning context', is different from that of reflective ones. One examines the weights (Mathieson et al., 2001), which represent a canonical correlation analysis and provide information about how each indicator contributes to the respective construct (see Table 2). Weights do not need to exceed any particular benchmark because a census of indicators is required for a formative specification (Diamantopoulos and Winklhofer, 2001). The concern with formative dimensions is potential multicolinearity with overlapping dimensions, which could produce unstable estimates (Mathieson et al., 2001). Results of a colinearity test show the variance inflation factor (VIF) scores of the second-order construct for all dimensions is far below the common cut-off of 10. In addition, we confirmed the validity of the formative dimensions using the procedures suggested by Fornell and Larcker (1981).

Table 2: Weights of formative construct dimensions

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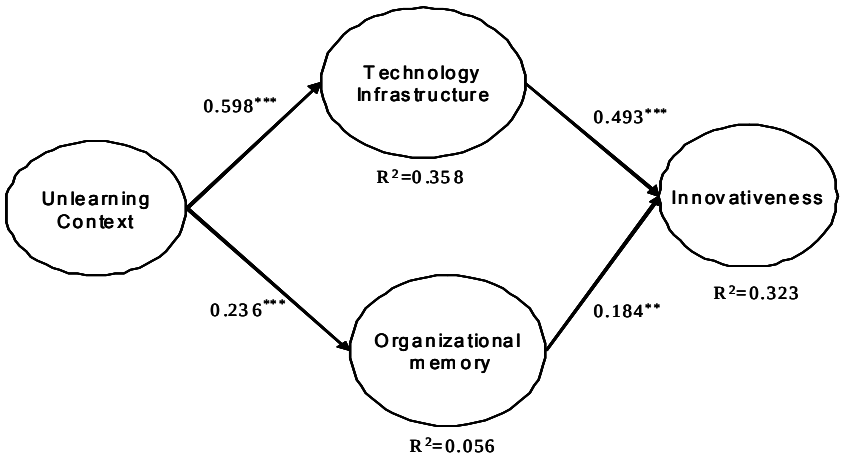
High order constructs and their dimensions	weights	t de Student
Unlearning Context		
Consolidation of emergent understandings	0.55	4.49
The examination of lens fitting	0.21	2.10
The framework for changing individual habits	0.38	2.88

4. Results

The structural model resulting from the PLS analysis is summarized in Figure 1, where the explained variance of endogenous variables (R^2) and the standardized path coefficients (β) is shown. As is observed, all hypotheses presented are significant, and therefore, have been verified. Since PLS makes no distributional assumptions in its parameter estimation, traditional parameter-based techniques for significance testing and model were used (Chin, 1998). One consequence of the comparison between covariance structure analysis modelling approaches and PLS is that no proper overall goodness-of-fit measures exist for models using the latter (Hulland, 1999). The structural

model is evaluated by examining the R^2 values and the size of the structural path coefficients. The stability of the estimates is examined by using the t-statistics obtained from a bootstrap test with 500 resamples. Figure 1 sets out the model statistics and the path coefficients with the level of significance achieved from the bootstrap test. Consistent with hypotheses 1 and 2, the paths between Unlearning context and Technology infrastructure (β=0.598, p<0.001) and Organizational memory (β=0.236, p<0.001) indicate positive and significant relationships among them (see Figure 1). Additionally, hypotheses 3 and 4 are supported because the two path driven to innovativeness, from technology infrastructure (β=0.493, p<0.001) and from organizational memory (β=0.184, p<0.01) are also positive and significant. What means the propensity to innovate is influenced by the technology infrastructure and the organizational memory. Finally, we performed the Stone-Geisser test of predictive relevance to assess model fit in PLS analysis (Chin, 1998). When q-square is greater than zero, the model has predictive relevance. In our model, q-square was 0.11. Regarding the effect of Technology infrastructure and Organizational memory on innovativeness, the results further suggest that the effect associated with the technology infrastructure is stronger than the effect associated with the organizational memory.



*p < 0.05; **p < 0.01; ***p < 0.001 (based on $t_{(499)}$, one-tailed test)

Figure 1: estimated casual relationships in the structural model

5. Discussion

This research's first contribution derives from the results of the model's empirical test. As shown in Figure 1, the results indicate that the updating of the organizational memory and the technology infrastructure depends on the unlearning context, and that 'organizational innovativeness' is unlikely on an organizational basis without being fostered by 'the organizational memory and the technology infrastructure'. A possible explanation for that could be that organizational members are unaware of the negative consequences of the outdated values, beliefs, underlying assumptions, attitudes, and behaviors shared though the organizational memory and the technology infrastructure. Under this framework, individuals become less creative and they allow individual relationships to become 'fixed' and unresponsive, thus potentially reducing the degree of innovativeness. Therefore, the paper's first contribution stresses that companies may be over-investing in the adoption of the organizational memory and the technology infrastructure, and under-investing on mechanisms to facilitate the updating of the organizational memory and the technology infrastructure.

In testing H1 and H2, our findings demonstrate a bi-directional association between the unlearning context and the technology infrastructure, and between the unlearning context and the organizational memory. Thus, potentially 'unlearning context' provides an environment that supports the modification of organizational memory when this proves necessary. These findings support the proposition by Sinkula et al. (1997) that through the creation of an 'unlearning context' in the form of 'supporting small changes, encouraging the taking of risks and cooperation' managers can change both the technology infrastructure (e.g., through justifying modifications to existing technologies or even the abandonment of previously used technologies) and also organizational memory (erasing or revising older routines or organizational procedures). Therefore, the 'unlearning context' acts as "a company's capacity for organizational self-renewal and innovation through the revision of the organizational memory and the technology infrastructure in order to provide updated access to a wide range of

information and knowledge". It means that through the unlearning context, organizations foster a capacity where teams and their members are continuously able to increase their abilities to articulate knowledge and use technology tools.

With regard to H3 and H4, our findings suggest that organizational innovativeness is driven by the utilization of technology and the exploitation of what has already been learned and stored into the organizational memory. The results further suggest that the effect associated with the technology infrastructure is stronger than the effect associated with the organizational memory. This result is worthy of further investigation. One conclusion that might be drawn from this result is that people usually take advantage of technologies after colleagues direct them to a specific location in a system for lessons or tools (Gold et al., 2001).

The study is not without limitations. Firstly, although in this paper, we have structured the process flow only in one direction from the unlearning context to the innovativeness, we think that there are different ways of unlearning. Under this framework, while unlearning and innovativeness could be parallel processes in a specific context, in another context the same process flow should consider unlearning as a prior step. Secondly, in the same way that each person tries to invent his or her own memorization techniques, each organization will have basic ideas on which are the capacities of each one, a circumstance which is going to facilitate the unlearning of outdated knowledge. This means that other factors, which have not been included in this study, might also affect the constructs and relationships between them. In fact, some common problems for each company would be established, which are seen and used differently by each one of them.

6. Conclusions

Based on the above arguments, the main contribution of this research is to question the existing models which relate organizational memory, technology infrastructure and organizational innovativeness. In this paper, we warn companies about the cost of outdated technology infrastructures and knowledge stored in organizational memory. Although organizational memory and technology infrastructure potentially facilitates information sharing and joint sense making if organizational memory is not updated appropriately individual learning is likely to suffer causing a reduction in the value of knowledge. Regarding this, it is often stated that firms more often converge rather than reorient, because of factors such as organizational inertia. A possible explanation for that inertia may relate to outdated memories, which can affect the learning of an individual by: narrowing the cognitive processes of individuals; hindering their ability to plan, reason and understand the situation effectively; fostering a sense of the inadequacy of linkages between variables, such as people and processes; and limiting individual's prior knowledge of the potential interactions between new processes and their consequences. This means that individuals come to rely on embedded knowledge and reduce their participation in spontaneous interactions with their colleagues. Thus individuals become less creative and they allow individual relationships to become 'fixed' and unresponsive thus potentially reducing the value of new knowledge. Therefore, when an existing stock of knowledge has already been stored by an organization, but appears counter-intuitive or deeply flawed, this current "stock" should be ignored or at least set aside temporarily if we wish to give a new idea or interpretation fair consideration. Otherwise, individuals will experience fear, pressure and uncertainty and will feel confused at the prospect of unlearning an old habit and implementing a new one, which could hinder the learning process.

7. Appendix 1: questionnaire items

The consolidation of emergent understandings: with respect to your organization indicate the degree of agreement or disagreement (1= strongly disagree and 7= strongly agree):
P1_1: Managers seem to be open to new ideas and new ways of doing things
P1_2: Management has tried to initiate projects and introduce innovations
P1_3: Managers recognize the value of new information, assimilate it, and apply it
P1_4: Managers adopt the suggestions of the personnel in the form of new routines and processes
P1_5: Managers tend to collaborate with members of the organization and to solve problems together
P1_6: Managers ensure that everyone knows how to respond when faced with unexpected events
The examination of lens fitting: with respect to your current position indicate the degree of agreement or disagreement (1= strongly disagree and 7= strongly agree):
P2_1: Employees are able to identify problems (new ways of doing things) easily

P2_2: Employees are able to see mistakes from my colleagues
P2_3: Employees are able to listen to my customers (e.g. complaints, suggestions)
P2_4: Employees are able to share information with my boss easily
P2_5: Employees try reflecting on and learning from their own mistakes
The framework for changing the individual habits: with respect to your personal skills indicate the degree of agreement or disagreement (1= strongly disagree and 7= strongly agree):
P3_1: New situations have helped individuals identify their own mistakes
P3_2: New situations have helped individuals recognize undesirable attitudes
P3_3: New situations have helped individuals identify improper behaviors
P3_4: Individuals recognize their ways of reasoning or of arriving at solutions are inadequate
P3_5: New situations have helped individuals change their behaviors
P3_6: New situations have helped individuals change their attitudes
P3_7: New situations have helped individuals change their thoughts
Technology: (1= strongly disagree and 7= strongly agree):
P14_1: There are rules for formatting or categorizing knowledge in my organization
P14_2: There are specified keywords that need to be used for categorizing or searching for knowledge in my organization
P14_3: There are common technologies available for everyone in my organization
Organizational memory: Prior to the project, my division had (1= strongly disagree and 7= strongly agree):
P12_1. A great deal of knowledge about this product category
P12_2 A great deal of experience in this product category
P12_3. A great deal of familiarity in this product category
P12_4. Invested a great deal of R&D in this product category
Organizational innovativeness: (1= strongly disagree and 7= strongly agree):
P6_1. Technical innovation, based on research results, is readily accepted
P6_2. Management actively seeks innovative ideas
P6_3. Innovation is readily accepted in program/project management
P6_4. People are penalized for new ideas that don't work (R)
P6_5. Innovation is perceived as too risky and is resisted (R)

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