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Luiz Antonio Joia Getulio Vargas Foundation and Rio de Janeiro State University, lajoia@w3e.com.br

Bernardo Lemos Getulio Vargas Foundation and Petrobras, belemos@hotmail.com

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Tacit Knowledge Transfer within Organisations

Luiz Antonio Joia Getulio Vargas Foundation and Rio de Janeiro State University lajoia@w3e.com.br Bernardo Lemos Getulio Vargas Foundation and Petrobras belemos@hotmail.com

ABSTRACT

Knowledge and management of such knowledge have been studied for some time now as it became clear that a company with an unstructured approach to corporate knowledge management was incapable of competing in this new environment. As such, management of intangible assets, such as knowledge, came to be perceived as an important tool for competition. Based on that, this article aims to identify the pertinent factors for tacit knowledge transfer within a major government-controlled publicly-listed Brazilian oil company, namely Petrobras, by using a quantitative approach based on exploratory factorial analysis. It is concluded that idiosyncratic factors, the knowledge management strategy adopted by the company, and its organisational structure are relevant elements for the success of tacit knowledge transfer within the organisation. Hence, three propositions arising from the results obtained are consolidated and presented in order that they may be tested in a future explanatory study.

Keywords: Tacit Knowledge; Knowledge Transfer; Knowledge Management; Brazil

INTRODUCTION

Knowledge and management of such knowledge have been studied for some time now within the field of Business Administration. However, in the 1990s, with the alterations in the economic precepts from an emphasis on tangible resources to intellectual assets, it became clear that a company with an unstructured approach to corporate knowledge management was incapable of competing in this new environment (Davenport and Prusak, 2003). As such, management of intangible assets, such as knowledge, came to be perceived as an important tool for competition (Joia, 2007; Leonard and Sensiper, 1998; Nonaka and Takeuchi, 1997).

Knowledge may be divided into two distinct types, depending on how much it can be structured and codified. Explicit knowledge is expressed in formal language, words, symbols and numbers and can be stored in a database that allows the data to be transmitted, conventionally and easily, within the organisation. Tacit knowledge, which is difficult to express in formal language, comes from experience, perceptions and individual values and depends on the context in which it is generated (Davenport and Prusak, 2003; Haldin-Herrgard, 2000; Leonard and Sensiper, 1998; Nonaka and Takeuchi, 1997). These characteristics make tacit knowledge a source of sustainable competitive advantage (Davenport and Prusak, 2003; Ambrosini and Bowman, 2001; Nonaka and Takeuchi, 1997), however these same characteristics hinder the dissemination of tacit knowledge within the company (Bou-Llusar and Segarra-Ciprés, 2006).

Thus, for it to become an effective source of sustainable competitive advantage, it is essential that tacit knowledge be transferable within the company. Consequently, companies are increasingly intensifying their search for ways to transfer knowledge among their employees and prevent the loss of organisational knowledge (Murray and Peyrefitte, 2007; Bou-Llusar and Segarra-Ciprés, 2006;).

Therefore, the aim of this work is to identify, in an exploratory and empirical way, the relevant factors for tacit knowledge transfer within a large government-controlled publicly-listed Brazilian oil company, namely Petrobras.

BIBLIOGRAPHICAL REVIEW

Knowledge Transfer

Hansen *et al.* (1999) suggested two strategies for the transfer of organisational knowledge. The first strategy was called "codification" and the second "personalisation". In codification, all knowledge is standardised, structured and stored in information systems. In these systems, knowledge can be accessed via an efficient indexation system and can be distributed to all branch offices of the company via data networks. Thus, the reutilisation of explicit knowledge is the main objective of the company, giving scant incentive to customisation to adapt products and services to specific client needs (Hansen *et al.*, 1999).

On the other hand, in personalisation, the emphasis is on tacit knowledge transfer from one person to another. In this case, the knowledge storage systems are less robust than in the earlier strategy. The tools used are those that prioritise personal contact, so that difficulties, solutions, methods, costs, etc. of tasks carried out for the first time can be discussed to help employees who will be called upon to perform similar tasks later (Hansen *et al.*, 1999).

In the day-to-day activities of organisations, signs of tacit knowledge such as intuition, feelings, insights and personal abilities are detected. O'Dell and Grayson (1998) maintain that organisations have a large amount of knowledge to be discovered, mainly tacit knowledge in the form of know-how and best practices. Better use could be made of this knowledge if it were transferred within the organisation. Even in bureaucratic organisations, despite the preponderance of operational standards, the bulk of this knowledge is to be found in people and in the interactions among them (Kim, 1993).

In line with this, some relevant indicators may be found in the scientific literature for the transfer of tacit knowledge, as unveiled in the next section.

Indicators Associated with the Transfer of Tacit Knowledge

a) Individual Management of Time

Individual management of time becomes a prime indicator for tacit knowledge transfer. Tacit knowledge is a direct result of experience, reflection and dialogue – three activities that require time. This knowledge transfer also requires time for the exchange to be experienced and reflected upon (Haldin-Herrgard, 2000; Fahey and Prusak, 1998). Primarily, the sharing of tacit knowledge requires time for contacts and personal interactions (Roberts, 2000; Leonard and Sensiper, 1998).

Consequently, the first indicator associated with tacit knowledge transfer seeks to show whether or not people have enough time to share tacit knowledge within the organisation.

b) Common Language

For knowledge transfer to take place, a prerequisite is that there is a common language, in other words, the terminology and the jargon used are familiar by both (Davenport and Prusak, 2003; Disterer, 2003; Haldin-Herrgard, 2000).

On the other hand, as tacit knowledge is stored in a non-verbal form, people are often unaware of the knowledge they possess or are incapable of expressing something that for them is natural and obvious, however qualified and experienced they are (Bou-Llusar and Segarra-Ciprés, 2006; Davenport and Prusak, 2003; Stenmark, 2001; Haldin-Herrgard, 2000; Leonard and Sensiper, 1998).

Thus, the aim of the second indicator associated with tacit knowledge transfer is to make sure that people in the organisation have the ability to express the tacit knowledge they possess through a common language.

c) Mutual Trust

In order for the transfer of tacit knowledge to be successful within an organisation, it is of paramount importance that a relationship of trust prevail between the individuals, which must be developed within the social and cultural context in which they find themselves (Joia, 2006; Foos *et al.*, 2006). The greater the trust between individuals, the lower the level of risks and uncertainties in tacit knowledge transfer will be (Davenport and Prusak, 2003; Roberts, 2000). The establishment of a trusting relationship depends on the sharing of a series of social and cultural values and of expectations.

The goal of the third indicator is thus to check the existence of a relationship of trust among individuals that facilitates tacit knowledge transfer within the organisation

d) Relationship Network

For Szulanski (1996), one of the difficulties for effective tacit knowledge transfer is identifying both the need that one has for certain knowledge as well as what knowledge is appropriate to attend this need. O'Dell and Grayson (1998) refer to this problem as "ignorance", since neither the source nor the receiver of the knowledge knows who might be interested in the knowledge that they process or who possesses the knowledge that they need. This ignorance may be associated with the difficulty of individuals to evaluate whether the knowledge they possess is valuable for their colleagues or not, mainly if they are less experienced (Disterer, 2003).

Hence, this indicator aims to find out if it is possible to identify the people in the organisation that have the knowledge that is needed, as well as those that need such knowledge.

e) Hierarchy

Hierarchical and bureaucratic organisational structures, as well as the politics accompanying hierarchies, hinder communication, the sharing of information and consequently the transference of knowledge (Collison & Parcell, 2004; Disterer, 2003). In organisations of this type, each unit acts in such a way as to achieve its own results and rewards (O'Dell and Grayson, 1998), hindering incentives for the exchange of experiences. For tacit knowledge transfer to take place, people must be accessible when their knowledge is required, irrespective of their hierarchical position in the organisation (Fahey and Prusak, 1998).

Therefore, the accessibility, in an organisation, of people who possess tacit knowledge notwithstanding their hierarchical position, can be a pertinent indicator for tacit knowledge transfer.

f) Reward

Systems for reward of those who possess considerable expertise, without considering those who use their time to share knowledge, does not encourage the dissemination of knowledge (Hansen *et al.*, 1999; Leonard and Sensiper, 1998; O'Dell and Grayson, 1998). Besides this, other forms of tacit knowledge such as know-how should be recognised as being on a par with formal education (Haldin-Herrgard, 2000). Finally, systems that penalise those who make mistakes discourage innovation, which is the basis for the generation and transfer of tacit knowledge (Leonard and Sensiper, 1998).

Thus, the relevant indicator for tacit knowledge transfer proposed is one that establishes if the organisation rewards tacit knowledge transfer among its members.

g) Type of Training

The influx of new employees, the transfer of employees between areas and the promotion of employees demand appropriate training, as early as possible, such that these employees become familiarised with their new activities (Joia, 2007). Training is, therefore, a strategic activity and can be conducted in different ways. The type of training applied indicates the propensity of the company towards prioritising the dissemination of tacit knowledge.

More tailored strategies, based on personal contacts and which demand more time, such as coaching and mentoring, are more appropriate for the transmission of tacit knowledge (Disterer, 2003; Leonard and Sensiper, 1998). In these types of training, the more experienced employees are encouraged to transfer their knowledge to the newer employees. As a general rule, this type of on the job training focuses on work activities per se (Joia, 2007).

Another relevant indicator for tacit knowledge transfer associated with the extent to which the organisation prioritises personal training for its employees was thus created.

h) Knowledge Transference

The organisational strategy for knowledge transference can be focused on people or on the reutilisation of codified knowledge (Hansen *et al.*, 1999).

In the former, the emphasis is on dialogue and on the relationships among people, since knowledge is shared by personal contact (Joia, 2007; Hansen *et al*, 1999; Leonard and Sensiper, 1998; Nonaka and Takeuchi, 1997). The strategy that focuses on the reutilisation of codified knowledge presupposes that knowledge be stored in a database to which all those within the organisation have access and may use (Hansen *et al.*, 1999). In order to adopt this strategy it is important to be able to rely on technical support for the storage and transference of knowledge, although it should be stressed that technology does not work without the involvement of people (Joia, 2007, O'Dell and Grayson, 1998).

Thus, a tacit knowledge transfer indicator to check if knowledge transference in the company occurs mainly through the interaction of people is proposed.

i) Knowledge Storage

When the strategy of knowledge management of a company is geared toward explicit knowledge, the focus is on the knowledge stored in a database available to all those in the organisation (Hansen *et al.*, 1999). This strategy, which is mainly centred on information technology, requires a high investment in database systems. However, investment in information technology is not really appropriate for the personalised strategy, since tacit knowledge is seldom open to codification. In this strategy, most of the time the company relies on the accumulated experience of its employees, since knowledge is related directly to the person who developed it (Joia, 2007; Hansen *et al.*, 1999; Leonard and Sensiper, 1998; Nonaka and Takeuchi, 1997).

Therefore, this tacit knowledge transfer indicator seeks to check if the organisational knowledge is effectively stored in people.

j) Power

The possibility of loss of power also influences tacit knowledge transfer, considering that knowledge is an important asset in the workplace (Sun and Scott, 2005; Haldin-Herrgard, 2000; Leonard and Sensiper, 1998). Some people believe that they have more to gain by hoarding their knowledge than by sharing it (Davenport and Prusak, 2003). However, knowledge only has value if it is used. The value of knowledge is in its accessibility and use, rather than its ownership and control (Glazer, 1998).

Thus, another indicator to measure tacit knowledge transfer is created, which analyses knowledge as a source of power within the organisation.

k) Internal Level of Questioning

Fahey and Prusak (1998) defend the use of open, honest, reflective and critical dialogue with the intention of developing a new vision or perspective. For Cross *et al.* (2001), an environment where people can admit that they do not have certain knowledge and where they can also disagree with the ideas of others is important

Thus, a tacit knowledge transfer indicator associated with the level of questioning and criticism tolerated within an organisation is proposed.

l) Type of Valued Knowledge

Several forms of tacit knowledge, such as intuition and personal skills, are not considered of value by many organisations and their employees. In some business areas, the more traditional forms of decision making related to logic and reason are preferred (Haldin-Herrgard, 2000; Leonard and Sensiper, 1998). This barrier specifically inhibits the transfer and the building up of tacit knowledge within an organisation. (Leonard and Sensiper, 1998).

Similarly, many companies value technical knowledge and the acquisition of knowledge, instead of sharing it and disseminating it within the company (O'Dell and Grayson, 1998).

In view of this, a tacit knowledge transfer indicator was established to check the acceptance by the members of the organisation of suggestions and ideas that are not supported by data and facts.

m) Media

Lastly, the choice of media used within an organisation can contribute to tacit knowledge transfer. This media depends on the nature of the knowledge or information that is being shared (Murray and Peyrefitte, 2007; Daft and Lengel, 1986).

For Roberts (2000), the use of rich ways of communication is important for tacit knowledge transfer. Among these media, personal conversation can be considered the richest, since it fosters mutual and immediate feedback and uses multiple forms of communication, such as a demonstration of personal skills and even body language (Haldin-Herrgard, 2000; Leonard and Sensiper, 1998). Means of communication classified as low in richness are more appropriate for sharing information or explicit knowledge (Murray and Peyrefitte, 2007).

From these comments about the most commonly used ways of communication between people within an organisation, another important indicator for tacit knowledge transfer can be identified.

Table 1 shows – in consolidated form – the proposed indicators that will be used in this research to evaluate tacit knowledge transfer within an organisation and the bibliographic references that support the choice of indicators.

METHODOLOGICAL PROCEDURES

In order to conduct this investigation, a single exploratory case study was used. According to Yin (2005), exploratory case studies are used to generate propositions to be tested in future research, in an explanatory way, about very recent knowledge areas, as the case under scrutiny.

Besides, for Yin (2005), the use of a single case study is supported when it is representative, typical or revelatory of the problem under investigation. As such, it was decided to investigate the knowledge transfer processes in Petrobras – the government-controlled publicly-listed Brazilian oil company – as it is a big player in a very dynamic environment and recently experienced a major upheaval due to deregulation of the oil market in Brazil. In addition to this, the company did not hire any new employees for over 12 years. All these characteristics, give Petrobras the attributes necessary for it to be considered a revelatory case study (Yin, 2005), in relation to the need to deploy tacit knowledge management transfer processes that enable old and new employees to transfer their tacit knowledge.

Regarding the methodological procedures, the first stage involved a bibliographical review to survey the features that might influence tacit knowledge transfer in the company.

Through this bibliographical review, thirteen indicators that might influence tacit knowledge transfer were identified and consolidated in Table 1.

A questionnaire was then developed to be used in the field study. This questionnaire was based on an ordinal scale to measure the perception of the respondent. (Malhotra, 2006).

The questionnaire was composed of thirteen questions related to the tacit knowledge transfer indicators already unveiled. These questions used a Likert scale of five points ranging from "I Totally Disagree" to "I Fully Agree" seeking to measure the impact of the indicators proposed in the bibliographic review section on the tacit knowledge transfer process (Almeida and Botelho, 2006; Malhotra, 2006).

The unit of analysis chosen to collect data was the Marketing and Sales division of Petrobras, as this unit suffered a huge impact resulting from the deregulation of the Brazilian oil industry in the 1990's. Besides, as already mentioned, for 12 years this division's personnel remained unchanged as it hired no new employees, which led the division to implement a knowledge management program to transfer knowledge between the old and new employees.

In line with this, a sample of 139 employees encompassing both old and new employees of the division was chosen (Malhotra, 2006).

INDICATORS	BIBLIOGRAPHICAL REFERENCES
Individual Management of Time (I1)	Leonard and Sensiper (1998);Roberts (2000); Fahey and Prusak (2001); Haldin -Herrgard (2000); Grover and Davenport (2001); Davenport and Prusak (2003)
Common Language (I2)	Reber (1989); Segarra-Cipr és (2006); Stenmark (2001); Leonard and Sensiper (1998); Haldin-Herrgard (2000); Disterer (2003); Davenport and Prusak (2003)
Mutual Trust (I3)	Davenport and Prusak (2003); Joia (2006); Foos et al. (2006)
Relationship Network (I4)	Disterer (2003); O 'Dell and Grayson (1998); Szulanski (1996); Davenport and Prusak (2003)
Hierarchy (I5)	Joia (2006); O 'Dell and Grayson (1998); Disterer (2003); Fahey and Prusak (2001); Szulanski (1996); Sun and Scott (2005)
Reward (I6)	Haldin-Herrgard (2000); O 'Dell and Grayson (1998); Leonard and Sensiper (1998); Hansen <i>et al.</i> (1999); Szulanski (1996) Davenport and Prusak (2003); Joia (2006); Disterer (2003)
Type of Training (I7)	Leonard and Sensiper (1998); Disterer (2003); Joia (2007); Stewart (1998) Murray and Peyrefitte (2007); Nonaka and Takeuchi (1997)
Knowledge Transference (I8)	O'Dell and Grayson (1998); Nonaka and Takeuchi (1997); Joia (2007); Leonard and Sensiper (1998); Hansen <i>et al.</i> (1999)
Knowledge Storage (19)	Leonard and Sensiper (1998); Joia (2007); Hansen <i>et al.</i> (1999); Nonaka and Takeuchi (1997); Disterer (2003); Cross <i>et al.</i> (2001); Sun and Scott (2005); Fahey and Prusak (2001)
Power (110)	Davenport and Prusak (2003); Disterer (2003); Szulanski (1996); Drucker (1993); Haldin-Herrgard (2000); Sun and Scott (2005); Haldin-Herrgard (2000); Leonard and Sensiper (1998); Glazer (1998)
Favourable Environment for Questioning (I11)	Sun and Scott (2005); Disterer (2003); Fahey and Prusak (2001); Cross <i>et al.</i> (2001)
Type of Valued Knowledge (I12)	Haldin - Herrgard (2000); Leonard and Sensiper (1998); O'Dell and Grayson (1998)
Media (I13)	Daft and Lengel (1986); Roberts (2000); Leonard and Sensiper (1998); Murray and Peyrefitte (2007); Haldin-Herrgard (2000); Daft <i>et al.</i> (1987)

Table 1 – Indicators Associated with Tacit Knowledge Transfer (Source: Authors)

An online survey tool on the Internet known as *Question Pro* (<u>www.questionpro.com</u>) was used. Once the data of the 139 respondents were collected between January-February 2008, the reliability of the results was verified via the Cronbach's alpha (Hair *et al.*, 2005). Afterwards, exploratory factorial analysis was carried out (Hair *et al.*, 2005).

Initially Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were applied. Subsequently, the principal component analysis (PCA) method was applied based on the correlation matrix. This analytical method was chosen to find the minimum number of factors responsible for maximum data variation.

The minimum number of factors was established on the basis of the eigenvalues. Only factors with eigenvalues greater than 1 were maintained, in line with the latent root criterion (Hair *et al.*, 2005). Furthermore, it was considered desirable that the factors extracted should be responsible for at least 60% of the total variation (Malhotra, 2006).

In this study, the VARIMAX orthogonal rotation method was used in order to simplify the factorial matrix columns, giving a clearer separation of the factors (Hair *et al.*, 2005). Afterwards, the relevant factors were identified and propositions were prepared for future tests by means of confirmatory factorial analysis.

DATA ANALYSIS AND RESULTS

First of all, a proportion test supported – at a 5% level of significance – the hypothesis that the sample used represented the personnel allocated in the Marketing and Sales division of Petrobras.

Besides, as mentioned above, factorial analysis of data was conducted to find the structure of relevant factors for tacit knowledge transfer.

The reliability among the multiple measures of the variables that comprise this study was measured using Cronbach's alpha coefficient. When conducting this test, the "Media" indicator (I13) influenced the global result negatively and was therefore removed from the study. After this, Cronbach's alpha of the 12 indicators became acceptable (0.739), since it was higher than 0.7 (Hair *et al.*, 2005).

As stated above, besides ensuring the reliability of the data, it must be ascertained, via Bartlett's test of sphericity and the KMO measure of sampling adequacy (Hair *et al.*, 2005), that the data matrix has sufficient correlations to justify the application of the Factorial Analysis. In both cases, use of the factorial analysis method proved to be adequate

Once it has been applied, the Factorial Analysis procedure allows the commonalities to be analysed. The "Favourable Environment for Questioning" (I11) and "Knowledge Storage" (I9) indicators revealed commonalities less than 0.5 and were consequently removed (Hair *et al.*, 2005).

As stated above, the VARIMAX orthogonal rotation method was used in this study with a view to simplifying the factorial matrix columns, thereby providing a clearer separation of the factors (Hair *et al.*, 2005).

In this manner, three factors were selected for later analysis. The factors selected accounted for around 61% of the variance of the 10 variables (Table 2).

Table 3 shows how the items associated in accordance with a latent structure of loading factors. From this association, the relevant factors can be identified, as shown below:

- Factor 1 represents 26.9% of total variance. It is composed of 4 positively related variables: "Mutual Trust" (I3); "Type of Valued Knowledge" (I12); "Common Language" (I2) and "Individual Management of Time" (I1). Note that all these indicators depend more on personal characteristics than on organisational ones. Therefore, factor 1 can be referred to as the "Idiosyncratic Factor";
- Factor 2, representing 20.5% of total variance, is composed of the following indicators: "Type of Training" (I7); "Knowledge Transfer" (I8) and "Recognition and Reward" (I6). All these indicators are related to how the company deals with its knowledge management strategy. Therefore, this factor is referred to as "Knowledge Management Strategy";
- Factor 3, which represents 13.2% of the total variance, is composed of three variables: "Relationship Network" (I4), "Hierarchy" (I5) and "Power" (I10). These indicators are related to the structure of the organisation, i.e. to its chain of command and to its architecture. Therefore, this factor is referred to as "**Organisational Structure**".

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Variable	Initial 'Auto' values			Sum of the Square of the Loads			Rotation of the Sum of the Square of the Loads		
Variable	Total % of %	% Accumulated	Total	% of Variance	% Accumulated	Total	% of Variance	% Accumulated	
1	2.693	26.933	26.933	2.693	26.933	26.933	2.310	23.100	23.100
2	2.093	20.933	47.432	2.093	20.933	47.432	2.038	20.382	43.481
3	1.322	13.217	60.649	1.322	13.217	60.649	1.559	15.589	59.070
4	0.891	10.581	71.231						
5	0.713	7.134	78.365						
6	0.632	6.317	84.682						
7	0.505	5.051	89.733						
8	0.403	4.028	93.760						
9	0.379	3.785	97.545						
10	0.245	2.455	100.000						

Source: Authors

Table 2 - Explained	'Auto' V	alues and	Variance
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Indicators	Loading Factors		
I3	0.857		
I12	0.740		
I2	0.730		
I1	0.597		
I7		0.846	
18		0.817	
I6		0.702	
I4			0.874
15			0.818
I10			0.810

Table 3 – Final Factorial Analysis

FINAL REMARKS

The aim of this work is to identify in an exploratory way, in the Marketing and Sales sector of Petrobras, which factors are relevant to tacit knowledge transfer among its employees.

Initially, by means of analysis of the factorial loading obtained (Table 3), the study showed that the idiosyncratic characteristics of the employees have a positive influence on tacit knowledge transfer among them. That is to say, in Petrobras there is a good level of trust among the employees, which can be explained by the internal regime of a state-owned company, with a standard of human resources management that is different to that of a public company. In addition to this, this statement corroborates the ideas of Davenport and Prusak (2003), Joia (2006), Foos et al. (2006) and Roberts (2000), who affirm the importance of this variable in the process of tacit knowledge transfer in a company.

In addition to this, experiences, heuristics, insights etc. are prized in Petrobras, that is to say tacit knowledge that cannot be explained logically. This corroborates the view of Haldin-Herrgard (2000), O'Dell and Grayson (1998) and Leonard and Sensiper (1998), who affirm the importance of this variable in the process of tacit knowledge transfer in a company.

The employees also showed an adequate level of common language (or specific institutionalized jargon), a *sine qua non* condition for tacit knowledge transfer within an organisation (Davenport and Prusak, 2003; Disterer, 2003; Haldin-Herrgard, 2000; Szulanski, 1996).

Finally, the individual management of time also indicated some relevance for tacit knowledge transfer in the company, as asserted by Davenport and Prusak (2003), Grover and Davenport (2001), Haldin-Herrgard (2000), Roberts (2000), Leonard

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and Sensiper (1998), Fahey and Prusak (1998), among others. Thus, it transpires that the greater the idiosyncratic characteristic of the professionals being open to colleagues, the greater their inclinations for tacit knowledge transfer will be.

In terms of the second factor revealed in the factorial analysis – "Knowledge Management Strategy" – it was noted that it is aligned with the personalisation strategy, as defined by Hansen et al. (1999). In other words, all the factor loading was high and positive, demonstrating the importance of training based on mentoring or coaching (Leonard and Sensiper, 1998), a system of rewards for sharing tacit knowledge (Joia, 2006; Disterer, 2003; Glazer, 1998; Szulanski, 1996) and knowledge transfer through personal contact rather than through Information Technology (Joia, 2007; Hansen *et al.*, 1999; Leonard and Sensiper, 1998; Nonaka and Takeuchi, 1997).

Thus, the more personalisation-orientated the knowledge management strategy of the organisation is, the greater the willingness of the professional to transfer tacit knowledge.

With respect to Organisational Structure, it becomes apparent that it influences the transfer of tacit knowledge through a relationship network of professionals that allows them to locate rapidly who knows what (O'Dell and Grayson, 1998 and Szulanski, 1996) and through a hierarchical structure that fosters the accessibility of people, irrespective of their hierarchical position within the organisation, when their knowledge is needed (Fahey and Prusak, 1998).

Thus, the more flexible an organisational structure is, the greater the tendency of its professionals towards tacit knowledge transfer will be.

Once these observations have been made, propositions such as those presented in Table 4 can be made, which can then be tested in future works through confirmatory factorial analysis.

Pi	PROPOSITIONS	FACTOR
P1	A greater level of openness of the professionals in relation to their colleagues is positively related to a stronger willingness to transfer tacit knowledge	IDIOSYNCRATIC
P2	A greater level of personalisation in Knowledge Management Strategy of a company is positively related to a stronger willingness to transfer tacit knowledge	KNOWLEDGE MANAGEMENT STRATEGY
Р3	A greater level of flexibility in the organisational structure of a company is positively related to a stronger willingness to transfer tacit knowledge	ORGANISATIONAL STRUCTURE

 Table 4 – Propositions Generated for Future Tests

The field of knowledge management will remain high on the research agenda in Business Administration, since intangible assets such as tacit knowledge have emerged as key factors for competitive advantage in various industries (Disterer, 2003; Davenport and Prusak, 1998). Thus, this work hopes to have contributed to a clearer understanding of the tacit knowledge transfer phenomenon within organisations.

REFERENCES

- 1. Almeida A. R. & Botelho D. (2006). "Construção de Questionários". In: Botelho, D. & Zouain, D. (org.). *Pesquisa Quantitativa em Administração*. São Paulo: Atlas, 90-108.
- 2. Ambrosini V. & Bowman C. (2001). "Tacit knowledge: some suggestions for operationalisation", *Journal of Management Studies*, 38(6), 811-829.
- 3. Bou-Llusar J.C. & Segarra-Ciprés M. (2006). "Strategic knowledge transfer and its implications for competitive advantage: an integrative conceptual framework". *Journal of Knowledge Management*, *10*(4), 100-112.
- 4. Collison C. & Parcell G. (2004). *Learning to Fly: Practical Knowledge Management from Leading and Learning Organizations*, 2nd. ed., Chicester, West Sussex: Capstone Publishing Limited.

- 5. Cross R., Parker A., Prusak L., & Borgatti S. (2001). "Knowing What We Know: Supporting Knowledge Creation and Sharing in Social Networks". *Organisational Dynamics*, *30*(2), 2001, 100–120.
- 6. Daft R. L. & Lengel R. H.(1986). "Organisational Information Requirements, Media Richness and Structural Design". *Management Science*, 32(5), 554-571.
- 7. Davenport T. & Prusak L. (2003). Conhecimento Empresarial: Como as Organisações Gerenciam Seu Capital. 12th. ed., Rio de Janeiro: Elsevier.
- 8. Disterer G. (2003). "Fostering Knowledge Sharing: Why and How?" In: Reis A. & Isaias P. (ed.). Proceedings of the IADIS International Conference e-Society 2003, Lisbon, 219-226.
- 9. Fahey L. & Prusak L. (1998). "The Eleven Deadliest Sins of Knowledge Management". *California Management Review*, 40(3), 265-276.
- 10. Foos T., Schum G., & Rothenberg S (2006). "Tacit knowledge transfer and the knowledge disconnect". *Journal of Knowledge Management*, 10(1), 6-18.
- 11. Glazer R. (1998). "Measuring the Knower: Towards a Theory of Knowledge Equity". *California Management Review*, 40(3), 175-194.
- 12. Grover V. & Davenport T. (2001). "General perspective on knowledge management: fostering a research". *Journal of Management Information Systems*, 18(1), 5-22.
- 13. Hair J.F., Anderson, R. E., Tatham R. L., & Black, W. C. (2005). *Análise Multivariada de Dados*. 5th ed., Porto Alegre: Bookman.
- 14. Haldin-Herrgard T. (2000). "Difficulties in Diffusion of Tacit Knowledge in Organisations" Journal of Intellectual Capital, 1(4), 357-365.
- 15. Hansen M., Nohria, N., & Tierney, T.(1999). "What's your Strategy for Managing Knowledge? ". *Harvard Business Review*, March-April, 1-10.
- Joia L. A. (2006). "Distributive Knowledge Transfer Processes in G2G Endeavours: A Heuristic Frame". In: Traunmüller, R. (ed.) Knowledge Transfer for eGovernment: Seeking Better eGovernment Solutions. Trauner Verlag Universität, Linz, Austria, 170-183.
- 17. Joia L. A. (2007). "Knowledge Management Strategies: Creating and Testing a Measurement Scale". International Journal of Learning and Intellectual Capital, 4(3), 203-221.
- 18. Kim D. (1993). "The Link between Individual and Organisational Learning". Sloan Management Review, 35(1),37-50.
- 19. Leonard D. & Sensiper S. (1998). "The Role of Tacit Knowledge in Group Innovation". *California Management Review*, 40(3),112-132.
- 20. Malhotra N. (2006). Pesquisa de Marketing: Uma Orientação Aplicada. 4th. ed., Porto Alegre: Bookman.
- 21. Murray S. R. & Peyrefitte J. (2007). "Knowledge Type and Communication Media Choice in the Knowledge Transfer Process". *Journal of Managerial Issues*, XIX(1),111-133.
- 22. Nonaka I. & Takeuchi H. (1997). Criação de Conhecimento na Empresa: Como as Empresas Japonesas Geram a Dinâmica da Inovação. 17th. ed., Rio de Janeiro: Elsevier.
- 23. O'Dell C. & Grayson C. J. (1998). "If Only We Knew What We Know: Identification and Transfer of Internal Best Practices". *California Management Review*, 40(3), 154-174.

- 24. Roberts J. (2000). "From Know-How to Show-How? Questioning the Role of Information and Communication Technologies in Knowledge Transfer". *Technology Analysis and Strategic Management*, 12(4), 429-443.
- 25. Stenmark, D. (2001). "Leverage Tacit Organizational Knowledge", Journal of Management Information Systems, 17(3), 9-24.
- 26. Sun P. & Scott J. (2005). "An investigation of barriers to knowledge transfer". *Journal of Knowledge Management*, 9(2), 75-90.
- 27. Szulanski G. (1996). "Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm". *Strategic Management Journal*, 17, Winter, 27-43.
- 28. Yin R. (2005). Estudo de Caso: Planejamento e Métodos. 3rd. ed., Porto Alegre: Bookman.