IMPACT OF ORGANIZATIONAL CULTURE ON REVERSE KNOWLEDGE TRANSFER: SYNTHESISING THE PARTS

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ABSTRACT

The “Think Global, Act Local” concept pioneered by one of the popular multinational enterprises (MNEs) appears to have become the norm today. From an organization’s internal perspective, there are pressures for standardization to reap the benefits of scale and scope economies. On the other hand, from a customer’s perspective, there are equally strong pressures at adaptation and customization. Successful organizations tend to balance these conflicting forces by learning from their subsidiaries operating in different regions and locations. The notion of the *transnational corporation* proposed by Sumantara Ghoshal and Christopher Bartlett implies a two-way learning between corporate headquarters and strategic business units. Scholars have favoured the use of a number of inter-dependent factors – subsidiary autonomy, communication mechanisms, ability to absorb disparate patterns of knowledge, to name a few – to explain the phenomenon of Reverse Knowledge Transfer (RKT).

This work argues that more than any other factor, organizational culture determines (1) the extent to which reverse knowledge flows from subsidiaries to headquarters and (2) the extent to which it is assimilated and adopted throughout the organization. The analysis is based on the experience of subsidiaries of multinational enterprises operating in India. The aim of this work is to enable a better understanding of reverse knowledge flows and their impact on organizational success in multinational enterprises.

*Key words: Multinational Enterprise, Reverse Knowledge Transfer, Knowledge Flows, Knowledge-based MNE, Headquarters – Subsidiary relationship, Organizational Culture*
INTRODUCTION

Multinational enterprises have been the focal point of research for over seventy years now (Barnard 1938; Selznick 1957). During the initial phases, the term multinational corporation was used to denote any organization that was headquartered in one country and had subsidiaries in other countries. As pressures for local responsiveness and reduced costs (higher efficiency) started assuming importance, other terms were introduced – international, multi-domestic, and global. Increased pressure on both dimensions – cost (efficiency) and responsiveness – gave rise to the concept of the transnational (Ghoshal & Bartlett 2002) that is characterized by a two-way flow of tacit knowledge. Other scholars such as White and Poynter (1990) and Doz and Prahalad (1991) have referred to the MNE as a network, with subsidiaries being linked not only to headquarters but among themselves.

Given the complexity of managing enterprises in a semi-globalized world, scholars have pointed out the importance of understanding knowledge (Andersson et al 2002). It has been forcefully argued that the assimilation of knowledge generated at the subsidiary level, and its adaptation to other subsidiaries as relevant, can enhance the competitiveness of the multinational enterprise (Andersson et al 2001). That multiple knowledge flows (operational, market-oriented, contextual, and tacit) across a MNE network are indeed beneficial has been highlighted in several studies (Gupta & Govindarajan 2000; Kogut and Zander 1993; Tsai 2001).

While considerable emphasis has been placed on knowledge flows from the headquarters to the subsidiaries (the ethnocentric view), the transfer of knowledge from the subsidiaries to the headquarters (or reverse knowledge flow or transfer) has not been investigated thoroughly (Ambos et al 2006). Studies as they do exist have tended to limit their analysis to some factors only (Gold et al 2001; Gupta & Govindarajan 2000; Tsai 2001; Rabbiosi 2010).

For the purpose of this work, we have used the term knowledge as defined by Gupta and Govindarajan (1994):

1. Market data on customers
2. Market data on competitors
3. Marketing know-how
4. Distribution know-how
5. Technology know-how and
6. Purchasing know-how

This classification was used with a view to eliciting specific information from subsidiaries as opposed to a generic view of whether knowledge was being created or not and if created, whether it was being transferred back to the headquarters or not.

SURVEY OF LITERATURE

The multinational enterprise by definition is geographically dispersed (Kuhnert 2011) and hence has been treated as an inter-organizational network (Bartlett and Ghoshal 1986). While other resources and even capabilities can often be and indeed are imitated, tacit knowledge developed within the enterprise is an important determinant of competitive advantage. As a consequence, the multinational enterprise, to be successful, has to constantly create, disseminate and leverage knowledge efficiently and effectively (Teece et al 1997). Efficiency
is the ability to transfer knowledge at minimal cost and with minimal loss of time (Teece 1997; Szulanski 1996). Effectiveness is the ability to adopt, implement and leverage knowledge in its entirety (Kostova 1999; Kostova & Roth 2002).

For efficiency and effectiveness to be achieved simultaneously, or at the least sequentially with a minimum time lag, it is imperative that subsidiaries should be able to transfer the knowledge quickly and at minimal cost, and equally that the headquarters should be willing to adopt, disseminate and implement the knowledge across the network in the shortest possible time. Only if both the criteria are met would we be able to say whether the knowledge transfer was beneficial to the organization as a whole (Kuhnert 2011). Corporate headquarters might be benefitted by reverse knowledge flows for a number of reasons. The corporation as a whole can utilize the knowledge to coordinate its global strategy better, to speed up new product development (Ambos 2006) and to control the power of their subsidiaries (Yamin & Forsgren 2006). The corporate headquarters can also play an important role in channelling knowledge to the appropriate business unit, creating opportunities for leveraging the knowledge where it would be the most beneficial (Criscuolo & Narula 2007).

Scholars have demonstrated that a subsidiary can create new knowledge when it is granted a high degree of autonomy (Ghoshal & Nohria 1989, Gupta & Govindarajan 1991). However, such knowledge might be context-specific and the business unit might even resist sharing it with the network (Mudambi and Navarra 2004). In other words, while a high degree of autonomy is considered necessary for knowledge creation by the subsidiary, the same autonomy might inhibit reverse knowledge transfer.

Recently, scholars have emphasized the choice of vertical linkages between the subsidiary and corporate headquarters as an important factor in understanding the knowledge transfer phenomenon in MNEs (Almeida et al 2002, Gupta & Govindarajan 2000). The extent of reverse knowledge transfer has been shown to increase with the increase in the sophistication of the subsidiary knowledge (Rabriossi 2010). Further, in dealing with the variable relative size, subsidiaries bigger than their parent companies appear to be involved in greater levels of reverse knowledge transfer. Both person-based and electronic-based communication systems have been shown to be effective channels of transferring knowledge (Rabriossi 2010).

**METHOD AND DATA**

Drawing from the work of previous scholars, this work first identified subsidiaries of multinational enterprises operating in India. The purpose of the study was to understand:

1. Whether the subsidiary was creating one or more types of knowledge as defined by Gupta & Govindarajan (1994);
2. Whether the knowledge so created was being transferred back to the parent company (corporate headquarters) in the form of reverse knowledge transfer, and
3. The most important factor influencing the reverse knowledge transfer

Data was collected initially through a questionnaire sent to the subsidiary units. This was followed up through interviews (36%), telephone calls (35%) and video-conferencing (19%). 10% of the respondents declined to provide information other than what had been furnished in the questionnaire.
The sample frame comprised of 207 subsidiaries of MNEs operating in India. Of these, 108 were from the technology or knowledge sector, and 99 were from non high-tech or traditional sectors (manufacturing and services). A total of 95 responses were received – 64 from the knowledge sector (59.25%) and 31 from the traditional sectors (31.31%).

Based on an initial focus-group interview with the heads of 10 subsidiary units (7 from the technology sector and 3 from the traditional sector), the following hypotheses were formulated:

**Hypothesis 1**: The creation and transfer of knowledge from a subsidiary to the parent company is determined by the organization’s culture.

**Hypothesis 2**: The creation and transfer of knowledge from a subsidiary to a parent company is higher if the subsidiary is a successful business unit than if the subsidiary is dependent on the parent company.

**Hypothesis 3**: Reverse Knowledge Transfer is higher from subsidiaries operating in high-growth economies than from subsidiaries operating in low-growth economies.

The consensus among the focus group was that if Hypothesis 1 held, then it could be argued that organizational culture, more than any other factor, was the driver of reverse knowledge transfer. Other factors suggested by scholars such as subsidiary autonomy and communication mechanisms (Rabriossi 2010), formal and informal-based relationships (Gupta & Govindarajan 2000, Schulz 2001), inter-personal ties (Nohria and Ghoshal 1997) could then be interpreted as being sub-sets of the over-arching philosophy of an organization’s culture and work ethic.

It was also suggested in the focus group that a successful subsidiary (in terms of financial and market performance) was more likely to create and transfer knowledge to the parent company than a struggling subsidiary. For this to be validated, Hypothesis 2 had to hold.

Finally, since this work was carried out in India which has consistently witnessed growth rates of 8 – 9%, it was suggested that a linkage was possible between macro-economic growth and the acceptance of tacit knowledge from a subsidiary by the parent company. Hypothesis 3 was formulated to validate or negate this intuitive thinking.

Table 1: Representativeness of sample

<table>
<thead>
<tr>
<th>Sample frame</th>
<th>Sample frame</th>
<th>Respondent</th>
<th>Non-respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Industry</td>
<td>108</td>
<td>64</td>
<td>44</td>
</tr>
<tr>
<td>Traditional Industry</td>
<td>99</td>
<td>31</td>
<td>68</td>
</tr>
<tr>
<td>Size &lt; 100</td>
<td>12</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>100 – 499</td>
<td>27</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>500 – 999</td>
<td>25</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>&gt;1000</td>
<td>143</td>
<td>53</td>
<td>90</td>
</tr>
</tbody>
</table>
Table 2: Top three determinants of reverse knowledge transfer ranked by respondents

<table>
<thead>
<tr>
<th></th>
<th>Rank 1</th>
<th>Rank 2</th>
<th>Rank 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Culture</td>
<td>79</td>
<td>18</td>
<td>04</td>
<td>101</td>
</tr>
<tr>
<td>Leadership</td>
<td>07</td>
<td>60</td>
<td>17</td>
<td>84</td>
</tr>
<tr>
<td>Headquarter orientation</td>
<td>09</td>
<td>10</td>
<td>21</td>
<td>40</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>7</td>
<td>53</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>285</td>
</tr>
</tbody>
</table>

Table 3: Response to subsidiary success (financial and market performance) and reverse knowledge transfer

<table>
<thead>
<tr>
<th>Subsidiary Performance</th>
<th>Respondents</th>
<th>Created</th>
<th>Created</th>
<th>Transferred</th>
<th>Transferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Leader</td>
<td>68</td>
<td>55</td>
<td>13</td>
<td>48</td>
<td>07</td>
</tr>
<tr>
<td>Satisfactory Performance</td>
<td>21</td>
<td>10</td>
<td>11</td>
<td>02</td>
<td>08</td>
</tr>
<tr>
<td>Laggards</td>
<td>06</td>
<td>00</td>
<td>06</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>65</td>
<td>30</td>
<td>50</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 4: Response to whether reverse knowledge transfer was influenced by subsidiary country growth rate

<table>
<thead>
<tr>
<th>RK Transferring Subsidiaries</th>
<th>Influenced by growth rate</th>
<th>Not influenced by growth rate</th>
<th>Cannot say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Leader</td>
<td>20</td>
<td>22</td>
<td>06</td>
</tr>
<tr>
<td>Satisfactory Performance</td>
<td>00</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>Laggards</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>23</td>
<td>07</td>
</tr>
</tbody>
</table>

ANALYSIS AND INTERPRETATION:

Hypothesis 1:

Test 1: Chi-square Test: Test of independence

At 95% confidence level, Reverse Knowledge Transfer and Organizational Culture are statistically dependent on each other.
Also, Cramer’s V Value of 0.71 signifies the HIGH association between Reverse Knowledge Transfer and Organizational Culture. Cramer’s V varies from 0 (corresponding to no association between the variables) to 1 (complete association) and can reach 1 only when the two variables are equal to each other.

**Test 2: Variable Clustering using Principal Component Analysis (SAS’ VARCLUS Method)**

Two clusters were generated as below:

<table>
<thead>
<tr>
<th>Output</th>
<th>Variables</th>
<th>Proportion of Variation explained by cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster1</td>
<td>Leadership</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>Headquarter orientation</td>
<td></td>
</tr>
<tr>
<td>Cluster2</td>
<td>Organizational culture</td>
<td>0.85</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

High Proportion of Variation (85%) justifies that Cluster 2 (Organizational Culture/Other) is distinct from Cluster 1 (Leadership / HQ orientation). Also the association between the two clusters is low (0.33) which further signifies that the two clusters are separate (which is what we need statistically). Also, since the proportion of others (variables used by scholars) ranked first is very small compared to organizational culture, it can be argued that among the two variables of the second cluster, organizational culture plays a dominant role in reverse knowledge transfer.

**Hypothesis 2:**

**Test 1: Chi-square Test: Test of independence**

At 95% confidence level, reverse knowledge transfer and subsidiary success are statistically dependent on each other.

**Test 2:** Cramer’s V Value of 0.57 suggests the moderate association between reverse knowledge transfer and subsidiary success. Cramer’s V varies from 0 (corresponding to no association between the variables) to 1 (complete association) and can reach 1 only when the variables are equal to each other.

**Hypothesis 3:**

**Test 1: Chi-square test: Test of independence**

At 95% confidence level, reverse knowledge transfer and subsidiary country growth rate are statistically independent of each other.

**Test 2:** Cramer’s V Value of 0.14 suggests the LOW association between reverse knowledge transfer and subsidiary country growth rate. Cramer’s V value varies from 0 (corresponding to no association between the variables) to 1 (complete association) and can reach 1 only when the two variables are equal to each other.
The statistical dependence between organizational culture and reverse knowledge flows and the high degree of association as denoted by Cramer’s V value coupled with the distinctive cluster of organizational culture appear to suggest that of all the factors affecting reverse knowledge flow, organizational culture is the most crucial. Organizational Culture embeds most of the variables used by scholars – right from leadership to the values and principles of the organization. Organizational Culture also includes the manner in which tasks are performed, the nature of inter-personal relations, communication systems, autonomy given to the subsidiaries and the extent to which the organization can assimilate and disseminate new knowledge across the different business units. In this sense, the present work may be seen as synthesising the work of various scholars.

The second hypothesis being validated seems to suggest that reverse knowledge creation and transfer are more likely to occur from successful subsidiaries than from the laggards. It is interesting to note that in the case of two subsidiaries that were not doing well, even though some tacit knowledge was created, it was never allowed to be transferred let alone being absorbed by the organization. The implication of this finding may be more perceptual than real. Organizations probably would likely to be seen as encouraging performance within the firm in terms of adopting and disseminating knowledge created at the subsidiary level. The two hypotheses taken together seem to suggest that (1) Organizational Culture has a strong impact on Reverse Knowledge Transfers and (2) The more the success of the subsidiary, the higher is the probability that knowledge created at the subsidiary would be assimilated and disseminated throughout the organization.

The third hypothesis has been negated suggesting that macro-economic growth rate has little or no significance for reverse knowledge transfer.

LIMITATIONS AND SCOPE FOR FURTHER STUDY:

The study is limited by the fact that it is confined to subsidiaries of multinational enterprises operating in India. India has already proven to be a hub for reverse innovation with examples such as the low-cost ECG machine, the small car, a bicycle-driven water pump, a gas stove for use with bio-gas in rural areas and solar-powered street lamps and traffic signals, to name a few. Many of these have been adopted in other countries. However, a more detailed study covering the other emerging economies may be needed before the impact of organizational culture on reverse knowledge transfer can be established more rigorously.
REFERENCES:


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