

KNOWLEDGE TRANSFER-A NETWORK APPROACH TO TURKEY'S SMALL AND MEDIUM SIZED ENTERPRISES (SMEs).

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ABSTRACT

This research paper proposes a Knowledge Transfer and Networking approach to the development of SMEs in Turkey. SMEs are a source of strength in the knowledge transfer process, and a growing number of SMEs are directly concerned by government support. SMEs are particularly important in terms of their impact and growth potential. The aim is to investigate to what extent the knowledge is transferred within and between Turkish organisations and their global network. Turkey lies in a unique geographical and cultural position between Asia and Europe where knowledge transfer between the two continents might reasonably be assumed to be channelled. However, evidence suggests that SMEs in Turkey are failing to take the advantage of this situation. This could be because of lack of communication between SMEs, IT infrastructure, poor management skills and lack of financial support. Knowledge transfer literature strongly points out differences in approach to transfer knowledge between Europe, Asia and vice versa. This research compares knowledge transfer processes between Europe and Asia via Turkey in textile industries.

This research reviews and develops a First Aid model for SMEs in Turkey in order to implement or better the existing knowledge transfer procedures. This also helps one understand the level to which the process of knowledge transfer is entertained in SMEs. This First Aid model is made from four perspectives: 1) to implement proper collaborations between SMEs, 2) to make sure everyone listens to others who are willing to share their information, 3) understanding what is being told during knowledge transfer and 4) trust in order to ensure a safe understanding of knowledge and knowledge transfer procedures.

The First Aid model can be implemented in SMEs in order to bring down the communication gap between other SMEs or within the SME. This also helps the proper usage of sharing knowledge concepts which

ultimately leads to the optimum usage of resources.

Keywords: Knowledge Transfer, Knowledge Networks, First Aid Model, Turkey, SMEs.

INTRODUCTION

Knowledge transfer has received increasing interest among the modern business world, existing and new managers. Increasingly popular knowledge management efforts attempt to establish better utilization of knowledge assets and help new knowledge generation (Ceyhun and Caglayan, 1997). Knowledge transfer is acknowledged to be a major challenge for all firms. In an organisation, the typical activities that foster the sharing and creation of knowledge include hiring new staff with expertise, attending training programmes, setting up a Research and Development Department, and interacting with internal and external parties (Brooking, 1999; Davenport and Prusak, 1998). This is because social interaction has been recognised as an importance process through which new knowledge is created from the sharing of existing knowledge. There are many benefits they can enjoy by sharing existing or new knowledge. Any knowledge transfer within an organization or between organizations can share the knowledge/resources with out spending any money. The organization can avoid expensive resources and move much faster with old learning resources across the different geographic markets. However these benefits are not easily achieved in absence of new knowledge transfer processes in the new business. The traditional textile industry is growing faster with the help of information technology (Yifu, 2000). However some SMEs cannot afford expensive technology and therefore, they have to share their knowledge with other organizations or survive with their existing technology (Yoong and Molina, 2003).

Firms learn through their own experiences and through experiences of others (Levitt & March, 1988). While the firm members interpret experiences in one firm, knowledge from other firms has to be transferred in

one way or another. The notion of knowledge can be divided into two categories; explicit and tacit knowledge (Nonaka & Takeuchi, 1995). Explicit knowledge denotes knowledge, which can be articulated and thus easily transferred to other individuals by communication or documents. Tacit knowledge, or personalized knowledge (Polanyi, 1966), denotes knowledge which is difficult to transfer, if at all possible. Nonaka and Takeuchi suggest four different modes of knowledge conversion in order to convert tacit knowledge to explicit knowledge and vice versa, as well as from tacit to tacit and explicit to explicit knowledge. Some SMEs, especially the larger ones and those founded knowledge and technology specialization, do have clear growth strategies, and generally have no problems complying with regulations, quality system and staff development or in sharing their views with other network members or more widely. However, it is argued that knowledge transfer can help a network to identify the threat that link together cluster and nodes. Most of the Turkish SME's, even those that are active in several networks, do not have the inclination, knowledge or resource to comply. They clearly need support and policy target that are shorter term and more directly related to outcomes that will benefit their business in clear and obvious way. For this reason, knowledge transfer into the nature of knowledge sharing in a co-operation environment is both important and constructive and should be conducted on a continuous basis and SMEs are using the internet, websites and e-mail to access businesses and regulatory information. However, there are fewer signs that SMEs have improved significantly their collaboration with each other via knowledge transfer. It shows that knowledge transfer is the most important interest in SMEs in Turkey which makes success or failure and general characteristics are steadily growing.

Small business is a major constituent in any size of economy. Knowledge transfer often happens in an intercultural setting, because SME units may or may not be located in geographically different locations. Therefore, SMEs play a particularly important role in the Turkish economy, because of their number and because of the large share of the workforce involved. The government authorities have for many years carried out a variety of programmes to support these enterprises. Small and medium-sized industry constitutes a major component of an economy because it is flexible in adapting to social and economic conditions, and it is a dynamic sector in which new technologies are first tried out. Moreover, it supplies parts and components to large establishments.

(Taymaz, 1997). Knowledge transfer networking has been defined by Seufert, Von Krogh, and Back (1999), as "signifying a number of people, resources and relationships among them, who are assembled in order to accumulate and use knowledge primarily by means of knowledge creation and transfer processes, for the purpose of creating value." In order to survive and grow, there are many methods that firms can use. Firstly, networking can be an end in itself according to Gilmore et al (2001) and has proven a successful tool for smaller firms. In order for firms to appreciate the importance of networking and to consciously and successfully implement the networking concept through planning, they need to overcome the regular problem of lack of networks expertise. The difference between the success and failure of small firms can be the availability of and access to the relevant information and support services that have become increasingly common (Summon 1997). The business support infrastructure that we see today is of great value to struggling SMEs (Sparrow 1999) and the benefits of this form of knowledge transfer are perhaps not emphasised enough. In numerous cases, however, outside help is often sought too late - i.e. at the stage when firms are almost beyond help. All too often, the consultants who attempt to help are blamed when the business fails shortly afterwards (Adamson 2000). Knowledge transfer is, therefore, a critical factor in improving the growth prospects of many smaller businesses via networks.

Literature Review:

Knowledge transfer has received increasing interest among the modern business world, existing and new managers. Increasingly popular knowledge management efforts attempt to establish better utilization of knowledge assets and help new knowledge generation (Ceyhun and Caglayan, 1997). Knowledge transfer is acknowledged to be a major challenge for all firms. In an organisation, the typical activities that foster the sharing and creation of knowledge include hiring new staff with expertise, attending training programmes, setting up a Research and Development Department, and interacting with internal and external parties (Brooking, 1999; Davenport and Prusak, 1998). This is because social interaction has been recognised as an importance process through which new knowledge is created from the sharing of existing knowledge. There are many benefits they can enjoy by sharing existing or new knowledge. Any knowledge transfer within an organization or between organizations can share the knowledge/resources with out spending any money.

The organization can avoid expensive resources and move much quicker with old learning resources across the different geographic markets. However these benefits are not easily achieved in absence of new knowledge transfer processes in the business.

Knowledge Transfer:

There are various definitions of knowledge transfer.

- 1) The act of transferring knowledge from one individual to another by means of mentoring, training, documentation, collaboration. (Source: <http://it.csUMB.edu/departments/data/glossary.html>)
- 2) Within a modern, knowledge driven economy, knowledge transfer is about transferring good ideas, research results and skills between universities, other research organisations, business and the wider community to enable innovative new products and services to be developed. (Source: www.ost.gov.uk and www.bl.uk/about/strategic/glossary.html)
- 3) The effective sharing of ideas, knowledge, or experience between units of a company or from a company to its customers. The knowledge can be either tangible or intangible. (Source: <http://ccs.mit.edu/21c/iokey.html> (1994))

Defining Networks:

As the term network is used in several different research streams (within management, marketing, IT and sociology), confusion exists about its contents. Academically, the term is used in social network analysis (Burt, 1992, Nohria, 1992, Uzzi, 1997), in the network perspective of inter-organizational research (Nohria, 1992, Powell, 1990), including Williamson (1991, 1996), it is widely accepted that firms can exist in networks as a kind of third form of organization, as an alternative to the market as a regulating force, and the hierarchy with administrative power as regulators. However, in their discussion of the network metaphor Powell and Smith-Doerr (1994) come to the conclusion that the term network, despite its many meanings is useful:

- 1) As an analytical tool employed in economic sociology (Uzzi, 1997), or
- 2) As a form of governance as in the industrial network approach (Turnbull, Ford, & Cunningham, 1996) and research on industrial districts (Piore & Sabel, 1984).

Still, researchers within the industrial network approach argue that the network approach also provides a useful framework for analyzing interaction in business (Turnbull, Ford, & Cunningham, 1996), rather than being a form of governance.

Within the industrial network approach, a business network is built up by three important variables: actors, activities and resources. The general assumption of the network approach is that firms enter cooperative relationships with other firms in order to get access to the resources of the network (Johanson & Mattsson, 1987). Naturally, there is a limit to the number of relationships that can be maintained simultaneously by a firm, and relationships, despite being viewed as long-lasting, may have to be terminated in order for the firm to be able to create new relationships. Still, the network of the industrial network approach cannot be managed, as one firm cannot be in control of all the relationships, rather the firm has to manage in the network (Ritter, Wilkinson, & Johnston, 2002). This view is rather different Jarillo's (1988) strategic network, which have a controlling hub firm in the middle that sets up and manages the network.

SME Networks

SME networks have been classified as 'personal', 'support' and 'industrial' with emphasis being given to the sets of dyadic relationships that comprise the network (Shaw & Conway 2000:367). Personal networks often revolve around an owner's social circle of friends and acquaintances. Support networks comprise accountants, banks, local agencies and other providers of business assistance. Industrial networks are the exchange relationships involving customers and suppliers forming part of SME's value adding processes. These three types of networks are central to the existence of many SME's (Martin, 2000) In practice an SME's personal, support and, even sometimes, industrial networks may overlap significantly. Interest in personal networks has been stimulated by attempts to understand how involvement in these networks can help create, develop and grow small firms (Shaw & Conway 2000 : 370). Personal contact networks, it has been found, help generate social support for the owner, extend strategic competencies in terms of identifying opportunities and threats, and can supplement internal resources to resolve major operational problems. Owners can save significant time and money by accessing information, advice and resources through their personal networks. Social networks help build relationships that can give the small firm access to new markets, technology, finance and political protection (Doukas & Kalantaridis 2000). Relationships are governed by norms of personal social behaviour which serve as the rules and guidelines within the network. Relationships are based on trust which, in this context, means that the other person would reciprocate a favour if needed (Martin, 2000)

Network Principles and Concepts:

Networks encompass a firm's set of relationships, both horizontal and vertical, with other organisations including suppliers, competitors or other entities. They include strategic alliances, joint ventures and long term buyer-supplier relationships (Martin, 2000). Network relations, for example, provide emotional support for entrepreneurial risk-taking (Bruderl and Preisendorfer, 1998) and this in turn is thought to enhance persistence to remain in business (Gimeno et al., 1997). Networks can provide the firm with access to information, resources, markets and technologies as well as advantages from learning and scale economies. A firm's network can be thought of as creating an inimitable and non-substitutable value both as a resource in its own right and as a means of accessing other capabilities (Martin,2000). Although some networks are stable, typically they are dynamic reflecting both exogenous and endogenous influences and changes (Gulati et al 2000 : 210).These dynamics can have major consequences for a firm in a network (Martin,2000) Active networking and participation in network partnerships can help people and build mutually beneficial business relationships .A key benefit of networks for the business process is the access they provide to information and advice. Ties to venture capitalists and professional service organizations, for example, are a means for tapping into key talent and market information (Freeman et al., 1992). For a start-up or small business, networking can provide a lifeline of support and business generation through benefits such as:

- ✓ **benchmarking** opportunities against competitors and similar-sized businesses
- ✓ **comparing and discussing** issues of common interest, e.g. legal and regulatory developments, staff retention, supplier networks, customer service and computerisation
- ✓ **developing** ideas, innovation and knowledge of best practice
- ✓ **staff exchanges** and secondments, e.g. an expert from an association or business network may join your business to oversee a specific project or you may second a graduate joiner to a supplier to learn about the supply process
- ✓ **joint skills development** for staff in your business sector which can save costs across the board because of economies of scale
- ✓ **raising your business profile** by becoming an established and regular networking member, getting your face (and the business name) known and being an active networking partner

- ✓ **expanding markets** by generating business contacts such as customers, suppliers and partners
- ✓ Establishing **overseas partnerships**, e.g. through international exhibitions and conferences (source: www.isprofit.com)

Knowledge Transfer Networks Diagram:

The diagram below describes the process involved in knowledge transfer as applied between various firms of a textile industry in Turkey. This helps an easier way of communication between SMEs with the help of IT.

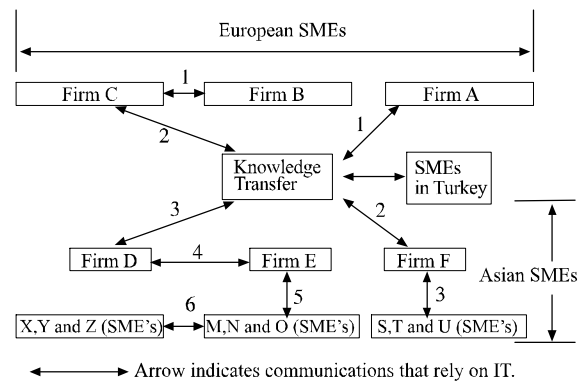


Diagram 1: Knowledge Transfer Networks Flowchart

As shown the above diagram, the knowledge transfer Networks in textile industries in Turkey depends on modern technology like the information technology. The bi-directional arrow indicates the communications process that depends on the IT. I make two main arguments from the above diagram. Knowledge transfer could be achieved by two different routes depending on the resources available. The first is the direct route that follows path 1, 2 and 3. It shows that any knowledge that is arriving from European SME's via Turkey goes to Asian SME's where this knowledge could be utilized for final production or it might be sent back with improvements amended to it. SME's S, T and U have modern technologies and enough resources to communicate with Firm F. The second is the Long Path route (that follows route 1, 2, 3, 4, 5 and 6) where knowledge collected to/from various entities lack modern technology that makes communication and knowledge transfer networks delayed and difficult. The knowledge transfer networks is bi-directional that depends on innovation and the demand for the product in the business/market. Ideas can be exchanged via networks from SMEs and as well as Europe and Asia.

Modes of Knowledge Transfer:

There are several views concerning Knowledge Transfer. Some researchers considered knowledge transfer is knowledge sharing among people (Huber, 1991). While Szulanski (1996) focused on the relationship aspect of knowledge transfer by defining knowledge transfer as exchange of knowledge between a source and a recipient. According to process-based view of knowledge transfer, Davenport and Prusak (2000) suggested that knowledge transfer process involved two actions: transmission of knowledge to potential recipient and absorption of the knowledge by that recipient that could eventually lead to changes in behaviour or the development of the new knowledge. The notion of knowledge can be divided into two categories; explicit and tacit knowledge (Nonaka & Takeuchi, 1995). Explicit knowledge denotes knowledge, which can be articulated and thus easily transferred to other individuals by communication or documents. Tacit knowledge, or personalized knowledge (Polanyi, 1966), denotes knowledge which is difficult to transfer, if at all possible. Nonaka and Takeuchi suggest four different modes of knowledge conversion in order to convert tacit knowledge to explicit knowledge and vice versa, as well as from tacit to tacit and explicit to explicit knowledge.

From / To	Tacit knowledge	Explicit knowledge
Tacit knowledge	Socialisation	Externalization
Explicit knowledge	Internalisation	Combination

Table 1: Four modes of knowledge conversion (Polanyi, 1966)

Knowledge Transfer Network:

In business, knowledge transfer network is always important because it identifies the flow of knowledge in organizations. Networking involves interacting with others for assistance and support (Waits, 2000). When an organization is in a network for management purposes, it will have the opportunity and control to do some of the following:

- ✓ **meet** in organised or informal forums
- ✓ **receive** news bulletins and invitations to events of general interest, e.g. exhibitions, lectures by prominent business people or industry experts, participate in debates on topics relevant to your industry or field of business
- ✓ **participate** in or contribute to surveys or research

in your field or business sector
(Source: www.isprofit.com)

In networks, trust between partner organizations is often cited as a critical element of network exchange that in turn enhances the quality of the resource flows (Larson, 1991; Lorenzoni and Lipparini, 1999). Other scholars have also defined network by the reliance on “implicit and open-ended contracts” that are supported by social mechanisms, such as power and influence (Brass, 1984; Thorelli, 1986) and the threat of ostracism and loss of reputation (Portes and Sensenbrenner, 1993; Jones et al., 1997) rather than legal enforcement. Trust has been seen as a fundamental precondition for knowledge transfer to take place (Snowden *ibid* p 239). Analysis generally focuses on the connections that exist within organisations. This can lead down to identifying the individuals themselves. For example, one social network analysis identified a network disproportionately reliant on one particular executive (Cross et al 2001:104-106) was identified as being overly reliant. Their studies have found that the relative strength of the ties in social networks will influence the transfer of the most useful knowledge (Levin et al 2002, Hansen 1999) weak ties and strong ties between members of social networks are often examined as variables in any study of knowledge transfer. They can also be analysed with the additional variable of trust (Levin et al 2002).

Importance of Knowledge Transfer Networks:

SMEs in Turkey, especially the larger ones and those specialize knowledge and technology, do have clear growth strategies and generally have no problems compiling with regulations, quality system and staff development or in sharing their views with other network members or more widely. Most Turkish SMEs, even those that are active in several networks, do not have the inclination, knowledge or resource to comply. They clearly need support and policy target that are shorter term and more directly related to outcomes that will benefit their business in clear and obvious way. For this reason, knowledge transfer into the nature of knowledge sharing in a co-operation environment is both important and constructive and should be conducted on a continuous basis and SMEs are using the internet, websites and e-mail to access businesses and regulatory information. However, there are fewer signs that SMEs have improved significantly their collaboration with each other via knowledge transfer. It shows that knowledge transfer is the most important interest in SMEs in Turkey which makes success or

failure and general characteristics are steadily growing.

Knowledge Networks in SME's:

The activities of many small firms are often based upon the skills and knowledge of the entrepreneur. Within the industrial sector in particular, many entrepreneurs are skilled craftsmen with a technological background. Their way of thinking and business perspective is mainly technology or product orientated (Fuller, 1994) and only a minority manage knowledge in a proactive and strategic manner to enhance their competitive advantage (Wickert and Herschel, 2001). Hansen (2002) argues that developing a knowledge network is especially useful for inquiring about opportunities. The joint consideration of related knowledge and lateral inter-unit relations of a knowledge network is illustrated in Figure A. which is the unit of analysis in this paper. Figure A illustrates a network of relations among all business units in a firm.

The figure below shows the related knowledge and lateral relation of knowledge transfer network.

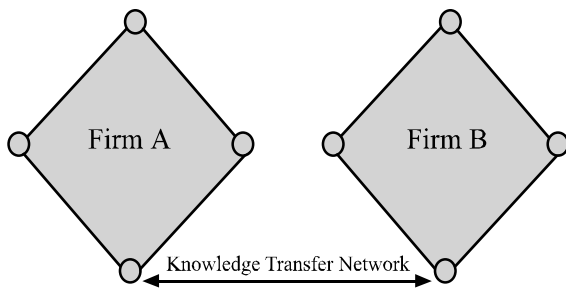


Figure 1: Network controlling business unit (Related Knowledge)

Figure 1 illustrates partitions in the business units in the firm into those that have relevant knowledge for the new product development. Firm A and Firm B form a bi-directional knowledge transfer network. In this type of knowledge transfer both the firms share the same type of knowledge from a same resource in a relative pattern. This knowledge network model seeks to advance understanding of knowledge sharing in SME's. By integrating the concept of related knowledge network connect that enable knowledge sharing and direct relation

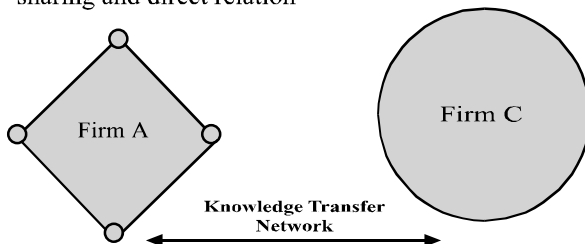


Figure 2: Network controlling business unit (Non Related Knowledge)

Figure 2 illustrates a network of relations among all business units in a firm but does not partition the individual units into those that have relevant knowledge for the new product development. In this type of Knowledge transfer, Firm A and Firm C share the same knowledge but form different resources. Each firm can access or share the knowledge from other resources that are explicit to each other. However, this approach enables to understanding of knowledge sharing effectiveness in SME's. While this method is conceptually similar to one firm to another firm, it explicitly includes the ability to access resources through indirect as well as direct links for any firm. After a thorough analysis of existing literature on Knowledge Transfer and Knowledge Networks, this research paper came to a conclusion where there is a wide gap in between the communication systems in SMEs and would like to propose a model below to bring down the communication gap to offer a better Knowledge Transfer process.

First Aid Diagram:

The Network First-Aid Diagram is a new concept this report would like to propose. The below diagram shows that any department within the organization should start by listening to each other, understand, trust and collaborate with each other in the network.

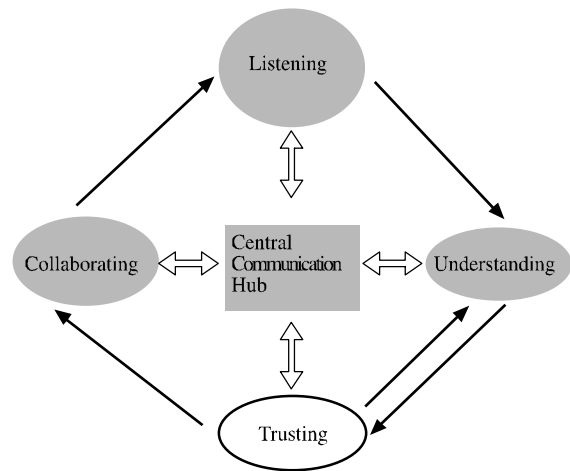


Diagram 2: Network First Aid Model for SMEs.

According to the literature review, in business network, listening, trusting and collaborating are the main elements to connect each other to businesses that are geographically separated. The Listening section of the above diagram shows that any conversation in the network is gathered and passed on to the understanding section. Understanding the gathered knowledge is trusted and then collaborated with the entire organisation to share the knowledge. Network First

Aid forms a central communication hub which helps the entire knowledge transfer process within the organization. Central communication hub could be a set of expertise, group of IT experts or a computer that receives and forwards the information to other sections. It is a reserved knowledge that constitutes experienced knowledge transfer professionals and could be contacted for any sort of procedural help that may be required by other sections. Central communication hub will be able to develop SME training presentations, design and develop various awareness materials, maintenance of existence database systems and develop a web strategy for collecting and storing information related to knowledge transfer procedures. Knowledge transfer becomes incomplete if the information being shared is not trusted and the entire process is complete only when the information is trusted once it is clearly understood. In practice, for example, when two firms are aimed a particular task and only one firm end up with its product then there is a loss in the final product. So, both firms needs appropriate communication and this is where Network First Aid box plays its important role. Similarly, collaboration, trust and understanding elements will contact the Network First Aid with the help of IT for any sort of help that they might need to ensure that the final product is completed in a stipulated amount of time.

In particular, trust as a control mechanism is based on the belief in the other partner's reliability in terms of fulfilment of obligation in an exchange (Appleyard, 1996). Trust allows both parties to assume that each will take actions that are predictable and mutually acceptable (Uzzi, 1997). These expectations reduce transaction costs—for example, monitoring and renegotiating the exchange in reaction to environmental changes — particularly in highly complex tasks facing strong time constraints (Kluge, Stein and Licht 2001). Trust also affects the depth and richness of exchange relations, particularly with respect to the exchange of information (Lee and Al-Hawamdeh, 2002.)

Collaboration of Networks is established for collective benefits and is most successful and effective where there is give and take by participants and members. This involves sharing organisational experiences through dialogue and interaction with other partners, as well as learning from theirs. For instance, the organization could attend debates and discussion groups to contribute their ideas and experiences or offer to speak at a conference. Other related research efforts have analyzed communities of practice (Wenger,

1998), actor-networks and networks of strong and weak ties (Granovetter, 1973). In his proposition, Granovetter explains that regular flow of information depends on the presence of multiple short paths between persons, than a local bridge does not represent a likely path of information flow, though it represents a possible path of such flow.

A Knowledge Transfer network's strength in any particular area or service depends on how actively its partners exchange information with each other and reciprocate. Scott (2000) argues that the methods best suited of network analysis, where some players act as key information distributors within a network and others act as bridges between networks. For example, if an organization receives advice from a network partner, the organization should be prepared to help them in the future. Partners who are willing to pass on skills to each other will establish the network as a centre of excellence or expertise and facilitate future collaborations. A well-run network will thrive if its participants play an active role in keeping the network topical and relevant (Dwyer, 2000).

CONCLUSION

In today's fast growing business strategies, every business organization would prefer to have a medium through which resources can be shared either within the organization or between two or more organizations. Effective Knowledge Transfer implementation helps SMEs with free flow of information, ideas and resources. But, this often may not be easy as there might be a communication gap between various entities in or between Turkish SMEs. The main challenge faced by most businesses is to manage the flow of information among different entities. Firms may not be able to handle complex knowledge transfer procedures with the changes and challenges in the dynamic business environment. Therefore, SMEs need a clear understanding on what to be shared, when to be shared or accessed and with whom the resources has to be shared. This study has made an attempt to identify and examine several important factors and developed *First Aid model* in order to reduce the communication gap in knowledge transfer process in Turkish Textile firms. Turkish SMEs will be able to achieve a desired level of participation in Knowledge Transfer process with the help of the *First Aid model*. This model is still being developed and implemented so as to verify the results. Knowledge comes to Turkey's business from different background and entities which is important to transfer it to Europe and Asia and vice versa.

REFERENCES

- Adamson, I. (2000) Management consultant meets a potential client for the first time: the pre-entry phase of consultancy in SMEs and the issues of qualitative research methodology. *Qualitative Market Research: An International Journal*. 3(1), pp.17-26
- Appleyard, M. (1996), 'How does knowledge flow? Interfirm patterns in the semiconductor industry', *Strategic management Journal*, vol. 17, Special Issue, pp. 137-154.
- Brass, D. (1984). Being in the Right Place: A Structural Analysis of Individual Influence in an Organization. *Administrative Science Quarterly*, 29, pp. 518-539.
- Burt, Ronald S. (1992), *The Social Structure of Competition*. In Eccles, R.G., editor, *Networks and Organizations. Structure, Form and Action*. Boston: Harvard Business School Press
- Bruderl, J & Preisendorfer, P. (1998). Network support and the success of newly founded businesses. *Small Business Economics*, 10, 13-225.
- Brooking, A. (1999) *Corporate Memory*, International Thomson Business Press, New York.
- Cross, Rob Andrew Parker et al (2001) Knowing what we know: supporting knowledge creation and sharing in social networks, *Organizational Dynamics*, 30, 2, 100-120.
- Ceyhun, Y ve Caglayan, U. (1997) *Bilgi Teknolojileri Turkiye Icin Nasil Bir Gelecek Hazirlamakta*, Tisamat Basim Sanayi, Ankara, 146s
- Dwyer D. (2000) *Interpersonal Relationships*, London: Routledge
- Doukas, M., & Kalantaridis, C. (2000): 'A Framework for Analysing Socioeconomic Relations within Interorganisational Networks in the Small Enterprise Sector', *Proceedings of The 2000 Small Business & Enterprise Development Conference*, p82
- Davenport, T. & Prusak, L. (1998), *Working knowledge: how organizations manage what they know*, Harvard Business School Press, Boston.
- Freeman, L.C., White, D.R., & Romney, A.K. (1992). *Research methods in social network analysis*. New Brunswick, NJ.: Transaction Publishers
- Fuller, P. B. (1994) Assessing marketing in small and medium-enterprises. *European Journal of Marketing*, 28 (12), pp. 34-49.
- Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78, pp. 1360-1380.
- Gilmore, A., Carson, D. & Grant, K. (2001) SME marketing in practice. *Marketing Intelligence & Planning*, 19 (1), pp. 6-11.
- Gulati, R., Nohria, N., & Zaheer, A. (2000): 'Strategic Networks', *Strategic Management Journal*, v 21p 203-215
- Granovetter, M. S. (1985) 'Economic action and social structure: the problem of embedded ness', *American Journal of Sociology*. November: 55-81.
- Hansen, T. M, (2002) *Knowledge Networks: Explaining effective knowledge sharing in multiunit companies*, Harvard Business School, USA.
- Huber. G.P. (1991), *Organizational Learning: The Contributing Process and the Literature*. *Organizational Science*, 2, 88-115.
- Kluge, J., Stein, W. & Licht, T. (2001), *Knowledge unplugged*, Palgrave, Great Britain.
- Larson, A. (1991). Partner networks: Leveraging external ties to improve entrepreneurial performance. *Journal of Business Venturing*, 6(3), 173.
- Levitt, B and March, G .1988. *Organizational learning*, *Annual Review of Sociology*, Vol. 14, 1988 (1988), pp. 319-340
- Lee, L. & Al-Hawamdeh, S. (2002), 'Factors impacting knowledge sharing', *Journal of Information & Knowledge Management*, vol. 1, no. 1, pp. 49-56.
- Levin, Daniel and Rob Cross, Lisa Abrams (2002) Strength of weak ties you can trust: the mediating role of trust in effective knowledge transfer, *Academy of Management Proceedings*.
- Lorenzoni, G. and Lipparini, A. (1999). The leveraging of interfirm relationships as a distinctive organizational capability: A longitudinal study. *Strategic Management Journal*, 20 (4), 317.

- Martin.C.(2000) International and strategic networks: An SME perspective, The Centre for International Manufacturing, Cambridge University September 2000
- Nonaka, I & H. Takeuchi. 1995. The Knowledge-creating company. New York: Oxford University Press
- Nohria, Nitin & R.G. Eccles. 1992. Networks and Organizations. Structure, Form, and Action. Boston: Harvard Business School Press.
- Polanyi, M.(1966) The Tacit Dimension³, Routledge and Kegan Paul, London
- Portes, A.; Sensenbrenner, J. (1993): Embeddedness and Immigration: Notes on the social determinants of economic action, in: American Journal of Sociology, Vol. 98, pp. 1320 – 1350.
- Piore, M.J & C.F Sabel. 1984. The second industrial divide: possibilities for prosperity. New York: Basic Books
- Powell, Walter W. 1990. Neither Market Nor Hierarchy: network forms of organizations, Research in Organizational Behaviour. 12: 295-336
- Powell, Walter W. & L Smith-Doerr. 1994. Networks and economic life.In Swedberg, R., editor, The Handbook of Economic Sociology. Princeton: Princeton University Press
- Ritter, Thomas , Ian F. Wilkinson, & Wesley J. Johnston. 2002. Firms' ability to manage in business networks: a review of concepts, 18th IMP conference. Perth, Australia.
- Seufert, A., von Krogh, G., Bach, A., (1999) Journal of Knowledge Management. Kempston: Vol. 3, Iss. 3; p. 180
- Sparrow, J. (1999) Using qualitative research to establish SME support needs. Qualitative Market Research: An International Journal, 2 (2), pp. 121-134.
- Szulanski, Gabriel. 1996. Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm. Strategic Management Journal, 17(10): 27-43.
- Shaw, E. & Conway, S. (2000): 'Networking and the Small Firm', in Carter, Enterprise and Small Business: Principles, Practice and ..., 2000
- Johanson, Jan & Lars-Gunnar Mattsson. 1987. Interorganizational relations in Industrial Systems: A Network Approach Compared with the Transaction-Cost Approach, International Studies of Management & Organization. 17(1):34-48
- Scott, J. (2000). Social Network Analysis: A handbook. Second edition. London: Sage
- Snowden, David (c2000) 'Social Ecology of Knowledge Management' in Knowledge Horizons ed. By Charles Despres and Daniele Chauvel, Oxford, Butterworth Heinemann, 237-265.
- Summon, P. (1998) Business Link impact and future challenges. Journal of Small Business and Enterprise Development, 5 (1), pp. 49-59.
- Turnbull, Peter, David Ford, & Malcolm Cunningham. (1996) Interaction, relationships and networks in business markets: an evolving perspective, *The Journal of Business and Industrial Marketing*. 11(3): 44-62
- Thorelli, H.B. 1986. Networks: Between Markets and Hierarchies, Strategic Management Journal. 7(1):37-51.
- Taymaz,E.(1997)'Small and Medium-sized Industry in Turkey', State institute of statistics, Ankara, Turkey
- Uzzi, B. (1997): Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness, in: Administrative Science Quarterly, Vol. 42, p. 35–67
- Waits, M. (2000), The added value of the industry cluster approach to economic analysis, strategy development, and service delivery', Economic Development Quarterly, vol. 14,no. 1, pp. 35-50.
- Wenger, Etienne. 1998. Communities of Practice: Learning, Meaning and Identity, New York: Cambridge University Press
- Wickert A. and Herschel R (2001). Knowledge-management issues for smaller businesses, Volume 5, Number 4, 2001, pp. 329-337(9)
- Williamson, Oliver E. 1991. Comparative economic organization: the analysis of discrete structural alternatives, Administrative Science Quarterly. 36:269-296
- Williamson, Oliver E. 1996. Economic organization: the case for candour, Academy of Management Journal. 21(1): 48-57

Yoong, P and Molina, M, (2003) Knowledge Sharing and Business Clusters, 7th Pacific Asia Conference on Information Systems, Adelaide, South Australia.

Yifu, L(2000) ,The development of the Information Industry and the principle of Comparative Advantage, working paper series, no E2000008,2000-11.

Web links:

1. <http://it.csumb.edu/departments/data/glossary.html>
2. www.ost.gov.uk and www.b1.uk/about/strategic/glossary.html
3. <http://ccs.mit.edu/21c/iokey.html> (1994)
4. <http://profit.com>