

Integration of Inter-Organisational Learning with Supply Chain Management: A Literature Review

Masimuddin Mohd Khaled

Abstract—This paper subsidises to the discussion of inter-organisational learning. This study has a main aim which is to examine the inter-organisational learning from a supply chain perspective. The integration and importance of supply chain with inter-organisational learning till date is discussed. The steps that are involved in the consideration of inter-organisational learning are looked throughout with emphasis done to supply chain management. The paper studies the impact of absorptive capacity, the supply chain orientation and design as well as discusses on fostering the inter-organisational learning.

Keywords—Absorptive Capacity, Inter-organisational Learning, Supply Chain Management, supply chain orientation.

I. INTRODUCTION

THE companies are collectively associating precarious resources with tactical partners such as supply chain partners in order to offer a competitive advantage to a company. The supply chain companies are transferring towards intricate, cooperative worth networks where the partners work and research together on solving problem, encouraging inter-firm studying and also allocation of risks and profits is done. The firms that reflect these kinds of values of accomplishment and gained benefits have used their supply chains as a competitive weapon are like Zara, Dell, Procter and Gamble and Toyota [1]. Moreover, though there are many presences of successful cases there are also many failures that occur. In addition to, practise shows that these are due to difficulty of tactical supply chain relationships that include absence of trust amongst the trading companions as well as absence of alignment amid the mental ideals of the partners that are involved. These weaknesses can be enhanced thoroughly by the practise of inter-organisational learning. The process of learning that involves supply chain connections is actually both inter-organisational as well as intra-organisation learning. However, it is quite challenging in order to connect both the learning practises [2].

The ideas and insights from the partner companies are obtained but they overcome difficulties in order to apply these ideas and insights in their own companies. The learning connection of both the inter-organisational and intra-organisational remains quite limited though the starting point in order to explore this sort of connection is provided by absorptive capacity [3]. Reference [4] introduced absorptive capacity, where they defined absorptive capacity as it is the

ability of a company in order to identify the importance of new, exterior information, integrate it and relate it to commercial ends. The absorptive capacity is actually developed in a context of research and development, but it also has a probable illustrative power in the context of supply chain given the main suppliers or the customers establish a vital source of new information and also deliberating the amount of increasing efforts that were spent in the coordination and integration done to business activities amid the buying and supplying organisations. When considering absorptive capacity in the sense of relational context, the foremost amount of new knowledge usually arises from a supply chain partner and as the definition represents, it is supported by three complementary procedures that include the exploration, assimilation as well as exploitation [5].

II. LITERATURE REVIEW

The inter-organisational learning is defined in various ways across the papers that are published earlier. Reference [6] defined organisational learning as a constant test of skill and its conversion into the information that is presented to the complete organisation and also related to the mission. Reference [7] considers organisational learning as a spectacle that arises when businesses obtain information that is either by understanding, knowledge, techniques, know-how and procedures of any sorts by any resources. Reference [8] defines organisational learning as it is a procedure through which organisations as cooperatives learn through collaboration with their situation. The preceding two definitions of inter-organisational learning shown actually indicate the significance of organisational learning for the business environment thus comprising the collaboration with the trading partners. These types of organisations not only generate the circumstances that enable permanent learning amid their staffs or associates but also cultivate a culture as well as a structure in which organisational learning is central for lifelong.

A. Supply Chain Orientation and Inter-Organisational Learning

In order to recognise the need for the capability to quickly familiarise to the transforming opportunities has led to the developing emphasis on the perception of the learning organisations and on the steps through which this competence can be established. The challenge of constructing and increasing learning competences actually does not halt at the limitations of the organisations. Organisations actually operate within the value streams that include many other firms in

M. Mohd Khaled, MSc in Engineering Management, University of Greenwich, London, United Kingdom (phone: +971-56-3484966; e-mail: masimuddin.khaled@yahoo.com).

supply chain within the supply chain network and it is also contingent upon the learning as well as the expansion of the entire organisation and not just only on the primary players. There are two orders organisation learning:

1. First Order Learning

The organisations amend their activities agreeing to the alteration amid the anticipated and actual effects.

2. Second Order Learning

In this order of learning, organisations actually conducts an enquiry to the values, expectations as well as also the strategies that actually led to the activities in the first place. When the activities and procedures are adjusted and altered, then the second order learning takes place. In other words, this second order learning is a thorough learning of the first order learning. This second order learning is also called reflexive learning.

Organisation learning is enhanced by the collaborations with the suppliers, intermediaries, customers and other firms and organisations itself [9]. A decent relation with the chain partners as well as experienced and challenging customers actually verifies to be a valued strength to the firms and its supply chain.

B. Supply Chain Design and Inter-Organisational Learning

The re-design of a supply chain or the development of a new supply chain does not actually outcome from a series of determined challenges at the optimal design; it rather arises and advances in an iterative way in the progression of a composite interaction of numerous actors whose actions are designed by a lively and indeterminate environment. Reference [10] suggests that the only way to create a new supply chain design that are established and approved by the market and the supply chain players is to accentuate on the three vital processes that are Network Formation, Experimentation and Alignment which are further discussed below.

1. Network Formation

The network formation continues through the formation of fresh connections that has been building on the base of current inter-firm bonds. The buyers as well as suppliers analytically share understanding and information with each other and also create a relationship-specific deal by functioning together which in return gives them welfares. Reference [11] described how the dedicated IT systems have actually made it probable to outsource maintenance to the numerous consultants with the precise capabilities since all the information concerning the type, frequency as well as the significance of interruptions and also the various techniques to face the information are gathered in databases. Moreover, selection of these associates depends on various factors which are generally stated as partner attractiveness but it may also be sustained by management tools.

2. Experimentation

Experimentation actually means not to study the inadequate

procedures and also encouraging the sharing of knowledge among the business partners in order to come up with new ones. Organisational learning can also be adversely affected when one of the partner company control the other as well as forces its interpretations onto the organisation. In addition to, communication will primarily go from the controlling party to the dependent party in the case of asymmetric relationships. Also, there is quite a little chance of knowledge distribution as well as intra-organisational learning without the distribution of information on an equivalent basis. An optimistic effect on the basis of sharing of information is done by power asymmetry till the abusing of power position is not done. An operative coordination as well as incorporation of the relationships can be provided by the power when the sharing of power has actually become genuine over time and also induces a higher level of enactment [12]. In order to have a good cooperation as well as organisational learning, reliance and obligation are the critical fundamentals for the building and increasing the customer-supplier relationships. The value of knowledge transfer between the firms is effectively led by trust which is actually very difficult to obtain.

3. Alignment

The term Alignment actually expresses as the planning or the association of the players of supply chain. All the players in the chain must be actually committed that there are opportunities that exist in order to basically improve the efficiency and also lucrativeness of the chain entirely and also values all the players at the end and these efforts must be aligned in the one exact direction. The consideration of the arrangement between the players as well as the doubts in the environment of business is needed, not only simply forming a supply chain strategy for the improvement of supply chain management performance. Reference [13] proposes the right supply chain strategy in order to devise a conceptual framework.

C. Fostering the Inter-Organisational Learning

Redesigning actually necessitates a change in the business's way of performing work and also the way of defining what to do that is in other words is to obtain a change in an organisational routine is required. The routines actually transform in reaction to learning-based mechanisms of second order [14]. For the case of better economic enactment, deliberate activities are needed to enhance routines. All the organisational activities those are actually allied with the assessment of the existing procedures and which may also lead to their amendment to an additional drastic transformation and also to their replacement. In other words this actually means that the organisations must actually assimilate impulsive intellectual in their procedures.

The potentials for the distribution of knowledge as well as information amongst the chain associates are extremely influenced by the alteration between the implicit and explicit knowledge. Furthermore, implicit knowledge is actually casual as well as unorganised and it can be gained and distributed by the means of concentrated, direct

communication, surveillance, simulated and also by conducting experimentation. As soon as the information is explicit that it is converted into some sort of methodical procedure that can be interconnected at a low cost, it is prepared as explicit and also available for use [15]. Therefore, it is vital for the partners of supply chain to classify their information as much as they can.

Reference [16] gives an example about the logistic organisation of Samsung of second order or reflexive learning. Looking at the television sets; they need to be conveyed within 48 hours from manufacturer to the store so that the television sets are available in the morning of Monday. This actually clearly illustrates that there will be in need of two trucks for the conveyance of the television sets from Czechoslovakia to Netherlands and that immunity has to be expected on a Sunday for driving through Germany which actually leads to an increase in cost. Thus, organising the supply chain in a different way would actually eliminate the extra cost. The procedure for the transportation of the television sets on Sunday is one of the many schedules that must continuously be assessed and altered if needed. Factory Gate Pricing causes variations to the directorship in the delivery fragment of the chain as dealers instead of vendors take control of the scheduling [17]. Due to the existence of asymmetric structure of the delivery system, they are competent to generate more well-organised distribution schedules. The concept was actually given a try to the Dutch Retail Industry, though the demonstrated prospective was quite big, in terms of reliance obstacles were faced which actually caused in an absence of willingness of dealers to share the critical data. Moreover, consumers are assessed on their desirability by simulating the routing of trucks in the customer base with the fresh prospective client incorporated. The prospective customer must not be advanced in the case when the marginal cost exceeding the marginal profits. Also, when additional fresh customers are contracted first than only the prospective customers could only be motivating, in order to attain the essential competences. Therefore, the customer acquirement needs to be completed in the precise structure.

Firms that actually accentuate collaboration amongst the partners of supply chain could actually accomplish better economic profits in contrast to those that adopt an old-style concept of competition. The critical resources of a firm may actually extend the limitations of the firm as well as it could be implanted in the inter-firm assets as well as procedures. A progressively significant unit of investigation for the thoughtful of the economical improvement is the affiliation amongst the firms and it also recognises the information distribution procedures as one of the utmost significant foundations for the competitive advantage of inter-organisational learning. For the capability in order to abuse the outer foundations of exterior knowledge is actually fundamentally the role of previous correlated knowledge, in other words, it is the absorptive capacity of the information receiver. In addition to, there are rare amount of studies that were accompanied and very little determination have been dedicated to the scrutinising of the significant association

between the inter-organisational learning process as well as the intra-organisation learning process which are actually an essential in the absorptive capacity. Reference [5] recommends in the paper that the absorptive capacity consist of three phases and that each of the phases actually agrees to a diverse kind of learning. The three phases are discussed below:

1. Exploration

This phase actually defines in the identifying as well as appreciating possibly valuable fresh information exterior of the firm through the application of exploratory learning that is also by seeking variety of processes. This phase can also be considered as a funnel.

2. Assimilation

This phase of the process deals with integrating valuable fresh information through learning by transformation, that in other word, means that the mixture of fresh information with the current information permitting the latter to be utilised in an innovative way. Furthermore, not all the fresh information could be straightaway applied; therefore, this phase has an inter-sequential purpose. This phase can also be considered as a pipeline.

3. Exploitation

This phase actually involves by the integrated information in order to generate fresh information as well as profitable productivities through the exploitative knowledge, in other words by pursuing the dependability of the procedures.

Therefore, it is really significant to comprehend in what way the partners generate information distribution procedures that actually outcomes in a competitive benefit. Considering know-how in this context as not reliable as well as problematic to organise, in addition to, it is quite difficult to replicate and conduct its transformation. Reference [18] gives an example of Toyota in their paper of by what means an inter-organisational competitive advantage can be gained from inter-organisational learning practices. By the development of transfer of information procedures to and among the dealers which consequence in a dense and inter-firm communal networks that actually leads to the escalation of specific absorptive capacity of the partner. Also, the Toyota staffs know what information will actually be valuable to the dealer, with whom should they interact and how to determine absorptive capacity of the dealer.

III. CONCLUSION

This paper actually paid attention on the importance of absorptive capacity as a tool of the inter-organisational learning competitive advantage with reference to performance of supply chain. Also, the market subtleties necessitate the re-designing of the supply chains numerous times over the life cycle of the product. Moreover, as the companies dependency has been decreased on the standards of the propriety, the modularity of the procedures as well as the systems are actually very good tools that leads to an escalation of the

flexibility. By the complementary done by the technology it actually delivers a countless potential by its adaptableness. The achievement of an ideal re-design is actually not by the development of an algorithmic matter; however it follows an organic procedure which includes network formation, experimentation as well as alignment as discussed earlier. The significant point here is in the achievement in the transformation of the procedures in order to subsidise successfully and also achieving a greater performance of the supply chain.

The transference of information in business is actually completed by the procedures of inter-organisational learning. The management can be given grant to the businesses as well as technological involvement of the supplementary businesses by the inter-organisational learning. The variances that occur in the inter-organisational learning of expertise, information as well as management schemes actually act as a barricade in the incorporation of the learning compartment and also in the co-ordination of the knowledge. Also, one must consider which phase is vital for the incorporation of inter-organisational knowledge. In order for the companies to effectually react to the developing competitive encounters in the universal market and also for the use of appropriate means that actually accentuate innovation that is based on information. Additionally, it is also vital for the businesses to ensure admittance to the adequate incomes that also readily allow reaction in a widespread method thus actually permitting businesses to launch their economical charges. The dedication should not be specialised on the external resources which were subcontracted or the competence of the internal core by vision of the company's management. For the formation of the greatly incorporated inter-organisational network of the business which actually permits the establishment of a co-operative system that embrace the tactical collaboration as well as the supplementation of the resource from the firms of upstream and downstream. This actually leads to a prompt and effectual mobilisation of the resources that could be prepared in reaction to the competitive encounters.

In addition to, the businesses by the help of communal study of the members of network, business information being exchanged, practises of management being shared and also the concept reach an agreement in the development of management as well as communication. As a result, the businesses develop united objectives that demonstrate helpful in the co-operation of the incorporation of the possessions of the associates and also the co-operative interactions of the maintenance are set on long term basis. This paper discussed earlier the probes in inter-organisational learning that how the information of the management and also delivers numerous outcomes related to the inter-organisational learning activity enterprises and also incorporation.

REFERENCES

[1] Singh, H. & Dyer, J. H., 1998. The relational view: cooperative strategy and sources of inter-organisational competitive advantage. *The Academy of Management Review*, 23(4), pp. 660-679.

[2] Magnan, G. M. & Fawcett, S. E., 2002. The rhetoric and reality of supply chain integration. *International Journal of Physical Distribution and Logistics Management*, 32(5), pp. 339-361.

[3] Lyles, M. A., Tsang, E. W. K. & Easterby-Smith, M., 2008. Inter-Organizational Knowledge Transfer: Current Themes and Future Prospects. *Journal of Management Studies*, 45(4), pp. 677-690.

[4] Levinthal, D. A. & Cohen, W. M., 1990. Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), pp. 128-152.

[5] Koka, B. R., Pathak, S. & Lane, P. J., 2006. The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct. *Academy of Management Review*, 31(4), pp. 833-863.

[6] Senge, P. M., 1990. *The Fifth Discipline*. New York, Doubleday.

[7] Schon, D. & Argyris, C., 1978. *Organisational learning: A Theory of Action Perspective*. MA, Addison Wesley.

[8] March, J. G. & Cyert, R. M., 1963. *A behavioral theory of the firm*. Englewood Cliffs: Prentice Hall.

[9] Sengupta, S. & Mohr, J., 2002. Managing the Paradox of Inter-firm Learning: The Role of Governance Mechanisms. *The Journal of Business and Industrial Marketing*, 17(4), pp. 282-301.

[10] Romijn, H. & M.C.J. Caniëls, 2008. Supply chain development: Insights from Strategic Niche Management. *The Learning Organisation*, 15(4), pp. 336-353.

[11] Balconi, M., 2002. Tacitness, Codification of Technological Knowledge and The Organisation of Industry. *Research Policy*, Volume 31, pp. 357-379.

[12] Benton, W. & Maloni, M., 2000. Power Influences in the Supply Chain. *Journal of Business Logistics*, 21(1), pp. 49-73.

[13] Lee, H. L., 2004. The Triple A Supply Chain. *Harvard Business Review*, 82(10), pp. 102-112.

[14] Umbhauer, G., Cohendet, P. & Stahn, H., 1998. *Economics of Networks: Interactions and Behaviours*. Verlag, Springer.

[15] Foray, D. & Cowan, R., 1997. The Economics of Codification and the Diffusion of Knowledge. *Industrial and Corporate Change*, 6(3), pp. 595-622.

[16] Lindert, M. M. T., 2009. *Logistiek. s.l., s.n.*

[17] Fleuren, H., Cruijssen, F. & Krieken, M. V., 2006. Factory Gate Pricing: An Experiment in the Dutch Retail Industry. *European Journal of Operational Research*, 174(3).

[18] Nobeoka, K. & Dyer, J. H., 2000. Creating and Managing a High Performance Knowledge Sharing Network: The Toyota Case. *Strategic Management Journal*, 21(3), pp. 345-367.



Masimuddin Mohd Khaleed (b. 1989) is currently pursuing Master of Science in Engineering Management degree from University of Greenwich, London, United Kingdom. He has his undergraduate degree in Bachelor of Science in Aeronautical Engineering (2012) and also published a paper titled 'CFD Analysis of Wingtip Sails using NACA 0015' in Paris, France (August 2012). The decision to move to engineering management is to enhance his business skills which he plans to apply to his own business.