



## Reconceptualizing Exploitation Capability and Institutionalization Process in Supply Chain Learning

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### Abstract

Supply chain learning can be considered as a critical aspect in achieving supernormal profits in today's dynamic business environment. Nonetheless, it is evident that most of the new ideas are not commercialized due to not having proper implementation mechanisms within supply chain contexts. In this regard, the elements of exploitation capability and institutionalization process are not adequate to address the dynamism of implementation process. Therefore, this research focuses on reconceptualizing the exploitation capability and institutionalization process addressing the behavioral dynamics of the today's supply chain context. The study uses epistemology world view and interpretative theoretical perspectives, multiple qualitative research methodology, multiple case study, and grounded theory thematic analysis method to study the phenomenon. Findings of the cross-case analysis indicate that organizational level of supply chain learning consists of institutionalization process that underlies exploitation capability. Exploitation capability consists of core competency and application. And, institutionalization processes consist of system changes and supply chain investments. Further, the study identifies that core competency and application are influenced by system changes and supply chain investments at the organizational level of supply chain learning. The theoretical contribution of the study consists of enhancing relational view, organizational learning theory, and dynamic capability perspectives within supply chain context. Practitioners need to focus on behavioral dynamics in implementations of learning in today's complex supply chain context. Future researchers are encouraged to explore core competency enhancements, psychological contracts, system interdependencies, and human investments at the organizational level of supply chain learning.

**Keywords:** Supply Chain Learning; Exploitation Capability; Institutionalization Process; Dynamic Capability; Organizational Learning; Behavioral Dynamics

### 1. Introduction and Significance of the Study

Competition is becoming more knowledge intensive in today's knowledge-based economy (Forman, 2004). Similarly, learning capabilities play a vital role in the knowledge-based economy (Pittz and Intindola, 2015). In addition, most of the organizations are moving into supply chain relationships to enhance their capabilities that transform competition into the new era (Grawe et al., 2015). Consequently, supply chain learning and innovation take a prominent role in enhancing capabilities (Grawe et al., 2015). It can be argued that supply chain learning consists of capabilities and processes. Early literature mostly studies supply chain learning capabilities using the relative absorptive capacity concept (Lane and Lubatkin, 1998). Relative absorptive capacity consists of recognition of value, assimilation, transformation, and exploitation capabilities (Lane and Lubatkin, 1998). A critical review of the literature indicates that exploitation capability operates at the organizational level of analysis

(Lane and Lubatkin, 1998). Previous studies discuss supply chain learning processes as intuition, interpretation, integration, and institutionalization (Tam and Gray, 2016; Jones and MacPherson, 2006). A review of the literature indicates that institutionalization process operates at the organizational level of analysis (Tam and Gray, 2016; Jones and MacPherson, 2006). In addition, organizational learning theories found out that institutionalization process leads to exploitation capability (Sun and Anderson, 2010). However, there is no proper conceptualization of elements of the organizational level of learning capabilities and processes in supply chain context. Little research has focused on conceptualizing elements of learning capabilities and processes. Nonetheless, the existing research has focused on the hard aspects of exploitation capability and institutionalization process while ignoring the soft aspects, which is critical in today's knowledge-based supply chain context. It is argued that most of the new insights are found to be lost due to non-availability of proper implementation mechanisms. Hence, this study explores the elements of exploitation capability and institutionalization process to foster supply chain innovations. Thus, this article reconceptualizes the elements of exploitation capability and institutionalization process at the organizational level of supply chain learning and explores its dynamics.

## 2. Literature Review

Supply chain learning is still an immature field in literature (Schorsch et al., 2018; Bessant et al., 2003). Organizational learning theory perspective argues the multilevel presence of organizational learning phenomenon (Tam and Gray, 2016; Jones and MacPherson, 2006). Though few studies apply the multilevel concept to supply chain learning context (Tam and Gray, 2016; Jones and MacPherson, 2006), most of the studies into supply chain learning fail to address behavioral elements of the organizational level that create problems in the implementation of new innovative ideas (Schorsch et al., 2018; Bessant et al., 2003). Therefore, the purpose of this study is to identify and explore elements of the learning capabilities and processes of the organizational level of supply chain learning. In this regard, this study extends early literature of organizational learning theory to supply chain context and identifies exploitation capability and institutionalization process as elements of the organizational level of supply chain learning.

### 2.1. Theoretical perspectives

The use of multiple theoretical perspectives is encouraged in addressing the less developed phenomenon of study (Chicksand et al., 2012). Therefore, this study uses the relational view, dynamic capability perspective, and organizational learning theory to address the research problem of the study (Dyer and Singh, 1998; Teece et al., 1997; and Crossan et al., 1999). Relational view argues that "firm's critical resources may span firm boundaries and embed in inter-firm resources and routines" (Dyer and Singh, 1998. p. 660). Supernormal profits can only be achieved through joint idiosyncratic contributions of the supply chain partners (Dyer and Singh, 1998). Further, relational view argues relative absorptive capacity as the learning capability at the dyadic supply chain level and a source of achieving supernormal profits (Dyer and Singh, 1998). Lane and Lubatkin (1998) define relative absorptive capacity as "the ability of a supply chain partnership to acquire, assimilate, and exploit knowledge." This study focuses on exploitation capability at the organizational level that is needed to commercialize new innovations and to ensure adaptation to business environmental changes.

The theory of dynamic capability focuses on "the firm's ability to integrate, build, and reconfigure internal and external competencies to rapidly changing environments" (Teece et al., 1997. p. 516). This study focuses on exploitation capability as a part of dynamic capability that ensures adapting to environmental changes and achieving the competitive edge. Salvato and Rerup (2010) argue that dynamic capabilities consist of different types of capabilities and processes. Learning can be considered as one dynamic capability with multilevel capabilities and processes (Swift and Hang, 2008).

Organizational learning perspective argues that learning capabilities consist of learning processes (Sun and Anderson, 2010). Synthesis of literature indicates intuition, interpretation, integration, and institutionalization as socio-psychological processes of organizational learning (Crossan et al., 1999).

Few researchers extend intuition, interpretation, integration, and institutionalization processes as supply chain learning processes (Tam and Gray, 2016; Jones and MacPherson, 2006). Institutionalization process is identified as learning process at the organizational level (Tam and Gray, 2016; Jones and MacPherson, 2006). This study focuses on exploring the dynamics of exploitation capability and institutionalization process that fill gaps in supply chain learning literature. The next few sections discuss exploitation capability and institutionalization process.

## 2.2. Exploitation capability

Exploitation capability is focused on literature into relative absorptive capacity, absorptive capacity, exploitative learning, and supply chain implementation (Lane and Lubatkin, 1998). The early literature identifies exploitation capability as utilization of organizational resources to create new systems that improve core competencies (Teece et al., 2016; Teece, 2016; Zahra and George, 2002; and Teece et al., 1997). Noblet et al. (2011) identified use and implementation as defining characteristics of exploitation capability. Furthermore, core competencies are identified as the indicator of exploitation capability (Noblet et al., 2011). A critical review of the literature indicates that comparatively more studies focus on exploitation than exploration (Stader et al., 2013). Literature into absorptive capacity and relative absorptive capacity mostly studied exploitation capability using positivist approach (Lane and Lubatkin, 1998; Lane et al., 2001; Lewin et al., 2011; and Saenz et al., 2014). Therefore, behavioral dynamics of exploitation capability is missing (Rezaei and Darwish, 2016). Further, critical review of the literature indicates that different researchers define exploitation in different manners that hinder the development of theory into exploitation capability (Lane and Lubatkin, 1998; Lane et al., 2001; Lewin et al., 2011; and Saenz et al., 2014). Therefore, this research addresses behavioral dynamics of exploitation capability. In addition, in today's dynamics supply chain context, implementation should focus on core competency enhancements and application to adapt to environmental changes.

## 2.3. Institutionalization process

Literature into organizational learning processes addresses institutionalization process as implementing individual- and group-level learning at the organizational level (Crossan et al., 1999). Researchers into process perspective of organizational learning identify organizations as the collection of individuals and institutionalization of learning into routines, systems, rules, and procedures (Crossan and Berdrow, 2003). Literature into organizational learning theory mostly studied institutionalization process focusing on hard aspects. Therefore, behavioral dynamics of institutionalization process is missing. Further, critical review of the literature indicates that different researchers define institutionalization process in the different manner that hinders development of theory into exploitation capability. It is evident that a little number of researches focus on institutionalization process in supply chain context (Tam and Gray, 2016). Therefore, this research addresses behavioral dynamics of institutionalization process that address the needs of today's supply chain context.

## 3. Research Problem and Research Question of the Study

Today's dynamic supply chain learning context needs to focus on social and psychological aspects to optimize the innovation process. Therefore, the research problem of the study is:

- How do the dynamics of the organizational level of learning explain supply chain learning context? Accordingly, the research question of the study is articulated as follows:
- What is the dynamics of elements of the organizational level of supply chain learning?

## 4. Research Methodology

This research uses constructionism epistemology and interpretivism theoretical perspective to explore the dynamics of the organizational level of supply chain learning (Plano and Creswell, 2011; Bryman

and Bell, 2007; and Crotty, 1998). The study uses multiple qualitative case study methodology. It uses four dyads which consist of one manufacturer organization and supplier organization. For confidentiality purposes, four dyads are named as dyad one (A-B), dyad two (C-D), dyad three (E-F), and dyad four (G-H). All the four dyad partners are large scale and reputed organizations in respective industries. Continuous innovations and implementation of new products and processes are strategic focus areas of all the four dyads. The data were collected using semi-structured questionnaires, unstructured questionnaires, secondary data collection, and direct observations. The purposive sampling method and maximum variation sampling have been used to select interviewees as they can give wider perspectives of the phenomenon. The study uses perspectives of both supply chain partners in data collection and analysis. The validity and reliability of the study are ensured through multiple mechanisms. The construct validity is ensured through multiple sources of data gathering. Further, triangulation of data gathered from diverse sources strengthens the validity of the findings.

The study uses supply chain actor as the unit of analysis of the study. The study concentrates on supply chain learning in product and process improvements. The data were analyzed using the grounded theory thematic analysis technique. Initially, codes, subthemes, themes, and concepts of the study are derived. Continuous data collection and analysis were conducted, and the existing codes, themes, and concepts are constantly improved till model gets saturated. Finally, data patterns are recognized to create causal maps and building theory of the research. The findings of the study are articulated as indicated in the next section.

## 5. Findings of the Study

Findings of the study analyzed the data gathered from interviews, secondary data collections, and observations in an in-depth manner as discussed in the following section.

### 5.1. Elements of organizational level

The main goal of this section is to present patterns obtained from the data analysis regarding the capabilities and processes of the organizational level of supply chain actors. It comprises learning capabilities and processes related to implementation process that ensure successful commercialization of products and processes. It involves exploitation capability and institutionalization process. The next subsection illustrates research findings regarding exploitation capability.

#### 5.1.1. Exploitation capability

Commercializing new applications is based on enhancing joint core competencies of the dyad partners. Moreover, commercialization of products and processes is conducted through the application process. Therefore, in this research, researcher analyzes exploitation capability in terms of core competency and application.

##### 5.1.1.1. Core competency

On the basis of the analysis, it was revealed that supply chain partners reconfigure the existing core competencies through the exploitation of new learning to address rapidly changing environments. Findings of the study reveal that supply chain core competence relates to the core business of supply chain relationship. Core competency is found to be observed in multiple means within the selected four supply chains. Accordingly, findings from the case studies indicate the importance of core competencies derived from the product as well as process implementations. For instance, in A-B dyad, new product introduction to market ensures the dominant position of the supply chain in the market and secures joint future market opportunities. This particular scenario is depicted by one of the senior managers in the following quotation:

“We hope to introduce the new soft drink to the market. Our supplier always gives us quick operationalization of new processes. I am sure this will be another milestone ... Of course, it improves both organizations image in the market” (Supply chain manager-A).

Further, in the C-D dyad, the introduction of new packaging solutions ensures the ability to be a dominant player in the market. It is evident that supplier is excelling in providing exceptional packaging solutions to the most respected brands in the world. Analysis of factory observation and production plans; it is evident that supplier organization and its management team focus on production process changes for improvements in packing materials. Thereby, the supplier is improving the core competencies in the product as well as processes with the manufacturer that ensures the market dominance of the supply chain. The following quote illustrates an example of joint product introduction that ensures dominant market position of the supply chain:

“We are pioneers in new package introduction to the market. Not only for Sri Lankan brands but also for international brands as well. So, keeping that trend, we always suggest our manufacturer about the new materials that we can use to enhance the package quality of their products” (Factory manager-D).

Findings also indicate that final moment changes affect the products and processes; therefore, management acknowledges the use of explicit as well as implicit contracts to govern application.

#### 5.1.1.2. Application

As per the findings of cross-case analysis, the application is the commercial implementation of joint supply chain activities through contracts. However, in today’s highly dynamic business environment, a high value is placed on dynamism. It is evident that final moment changes affect the products and process; therefore, dyadic partners use explicit as well as implicit contracts to govern implementation, where these contracts are evolving in nature. According to participant’s perspective, evolving contracts foster continuous improvements. Moreover, contract terms are dynamic and they change with specific supply chain partner needs.

Due to the complexity and uncertain nature of supply chain context, though supply chain contacts are initiated by one supply chain partner, the content analysis of contract evolution shows that dyad partners are adjusting contracts on an ongoing basis. It necessarily involves continuous negotiation and renegotiation. For instance, in A-B dyad, continuous improvements require reevaluation of contracts. Furthermore, in G-H dyad, in relation to asset purchases, supply chains involved in the sequence of contracts even after written contract are implemented. Furthermore, it is evident that less compatible agreements become more compatible agreements before they become a complete agreement. The following quotes illustrate the above dynamics of supply chain contracts:

“We have reached agreements at the organizational level to identify the most suitable machine for crate manufacturing. Then, those requirements go as the written agreement. However, it is my experience that these requirements change even in the process of buying machine .....I would say, it can change at the installation stage as well. Actually, final changes are reached after mutual agreements between our top managers” (Procurement manager-G).

“These audits are done by a third party. We have educated them. They have a system in place, they ensure food safety. Another thing is that they ensure work place rights. They are not doing anything unethical. Both these are qualification criteria. And with this provided that all satisfy, then they sign a supplier authorization agreement. The agreement has got certain things to ensure, that they continuously work on these areas. Continuous improvement ....things like that. See After approval they can’t violate. That can happen to know. That’s a legal binding” (Quality assurance manager-A).

Contracts in supply chain contexts add more subjectivity and dynamism into the process. In C-D dyad, being large firms with volatile regulatory changes in packaging, it is evident that final moment changes affect the products and process; therefore, final moment changes of promises involve subjective judgments of top-level managers to handle the implementation. Hence, contracts between supply chain actors take written, oral, and implied formats and include a combination of many approaches to implementing final moment changes. Observation of factory premises and behavior shows that cognitive limitations of decision makers can create inefficient resource allocations in certain contexts. In the respondent’s words:

“Our operations manager informs us all the final drawings of the product. That was there in the written agreement with the manufacturer. But, it is always a case that drawings of the package change,

even after it goes to the production process. Our factory executive does inform us and ask for required changes. Sometimes he allocates production workers of other jobs to serve this manufacturer's jobs" (Production employee 3-D).

#### 5.1.1.3. Institutionalization process

In this research, two facets of institutionalization process are revealed: Those are system changes and supply chain investments. Findings of the study indicate the importance of understanding interrelated subsystems in moving to product and process changes. Cross-case analysis emphasizes that key players are mostly manufacturer organizations and system changes need to communicate to key players, working to minimize revisiting forces, maximizing driving forces, agreeing on a change plan, and affecting toward the existing tasks and informal activities. The next subsection elaborates on dynamics of system changes.

#### 5.1.1.4. System changes

Findings reveal that it is crucial to understand the interrelated subsystems in moving to product and process changes. In C-D dyad, management acknowledges the critical role of balancing the product, process, as well as the context of the supply chain. Participants expressed that requirements of the individuals, teams, and organizations of the dyad need to be maximized in the implementation of new strategies. For instance, the supplier's production process is adjusted according to the manufacturer's requirements; therefore, other customers' orders are delayed due to sudden orders from the manufacturer. The supplier changes the machines and designs accordingly in a rapid manner to face orders; moreover, the supplier is very helpful in adapting to changes in raw material supply, for instance, trying to fulfill orders on time; as a result, the supplier has a very short lead time. In the respondent's words, the following quote illustrates an example of the importance of understanding the interrelated subsystems in moving to product and process changes with a short lead time:

"There have been lots of positive incidents. The supplier has been very proactive and helpful in giving material to us. They have a very short lead time. Whenever they develop new capabilities, they keep us informed" (Procurement executive-C).

In all the dyads studied, system changes involve communicating changes to key players, working to minimize revisiting forces and maximize driving forces, agreeing on a change plan, and affecting the existing tasks and informal activities. Cross-case analysis reveals that key players are mostly manufacturer organizations; for instance, in E-F dyad, the local nature of the product gives the manufacturer the authority to take decisions without consulting the mother company. However, it was found that the dominant knowledge competency is with suppliers as all four dyads are complementary knowledge combinations. For instance, in E-F dyad, the supplier has the expertise to develop the plastic products; therefore, communication with both dyad partners is crucial to agree a change plan. Management acknowledges that maximization of driving forces provides strong support to system changes. The case study indicates that the supplier adjusts well to changes required by the manufacturer. For instance, the supplier has to obtain process standards of the manufacturer organization; accordingly, the perceived changes need to be discussed with the respective parties. In addition, the manufacturer informally holds backup plans to change to the early system of tubs. Moreover, system changes involve the sequence of activities; therefore, it is crucial to address concerns in a step-by-step manner. For instance, the supplier has gone for a lean concept to reduce machine breakdowns. It requires changes to skills of employees, activities, diagnosis of current process, and evaluation of new processes. In the respondent's words:

"For example, when we are moving into total productive maintenance system. The support given by the supply chain actors are valuable. Though we have some internal change resistance, we have successfully moved into the new system" (Manufacturing manager-A).

"At the end, we decided to implement lean concept within our factory premises. We set the objectives of the lean process, its advantage for both supply chain partners, set performance targets, list of activities to do, training plan and much more. It is not an easy job. Change always requires proper management" (Sales manager-H).

Furthermore, in all the four dyads studied, the management acknowledges that supply chain investments are specific to the needs of dyadic partners in institutionalizing new learning.

#### 5.1.1.5. *Supply chain investments*

In all the four dyads studied, the management acknowledges that supply chain investments are specific to the needs of dyadic partners. Moreover, analysis of secondary data related to the investment assets and factory observations signals that the existing infrastructure facilitates the further substantial investments. Thus, the existing infrastructure facilities of the factory enrich the value added to the specific supply chain. From the top managers' perspective, those infrastructure investments are focused on specific dyad need, which makes it less valuable outside the joint learning activities.

“Manufacturing organization is having a special requirement. Additional filters, analytical machinery. We recommended that you have to use this machine. Therefore, we have to work with them to upgrade their machinery. We request special tank for us. It is only dedicated for the manufacturer. No contamination or nothing” (Supply chain manager-A).

A critical review of cross-case analysis of secondary data and observations reveal that supply chain investment is span across investment of time, money, and people in the development of supply chain learning. Top managers of supply chain partners allocate their personal time to taking the decision regarding investments and money is allocated without any hesitation to satisfy supply chain implementations; it ultimately leads to core competency enhancements. In C-D dyad, it is evident that top managers allocate their time to deciding the most appropriate stock policy of not keeping space. Analysis of secondary data reveals that supplier organization has invested money for stock arrangements in order to meet the manufacturer's sudden demand changes and new promotional campaigns. Furthermore, the supplier invests adequate money as and when needs arise for inventory storage. In the respondent's words:

“We ended up with this supplier. They provide us the best value. We started building the relationship. They also showed a positive trend. That's where the relationship kicked off. So without a relationship, you won't go to next step of investing millions. Even if you talk to the supplier, they will say the relationship draw this business. There was a time when their general manager called me from a developed country. We hadn't signed the agreement. He said, I am buying the machine, can you ensure you will agree? I said, yes, go ahead, and buy the machine. So, in one phone call, they invested millions. We made sure that we stuck to our word. That's why I talked about the relationship. If we had insisted on legal relationships, we might have waited for the document to be signed. So, nothing would have happened for the ages. That is why I said that strategic relationships are important in decision making. Otherwise, this investment wouldn't have happened on the supplier's side. And we wouldn't reap the benefits. It was the relationship that makes the decisions much easier down the line. And at the end of the day, it is a “win-win” situation” (Procurement manager-B).

In E-F dyad, unique investments are based on long-term returns; the supplier has invested time and money to mitigate negative issues. For instance, the manufacturer adjusts the production schedule for raw material shortages and the supplier has to deal with potential machine breakdowns. In the respondent's words:

“But actually supplier is the one who drives this project. I believe mainly because they are the one who invested. They want to let it go. Their intention to invest is very high. They somehow want to make it happen. And when it comes to manufacturer organization also did some changes. I don't think we did the changes to the same extent which they have done. We try to run using our existing very old machines. Whatever they gave. So, finally, they have done so many modifications and stuff. When it comes to development. They are very good in development part. But when it comes to deliveries and other things they are lagging on that aspect. They were not. This is not comparative. Compare to other customers. But when it comes to new technology and development they are far better than many Sri Lankan parties. But throughout the development part. They support us all the way” (Project manager-E).

The next section discusses the elements of supply chain learning and its linkages with early literature and original contribution to the field.

## 6. Discussion of Elements of Organizational Level

Aligning with early literature, it refers to learning at the organizational level of supply chain actor/s. Review of the literature indicates that institutionalization process leading to exploitation capability gives the competitive advantage to firms (Campbell, 2007; Teece et al., 1997). Commercialization of new learning enables the firms to gain relational rents and obtain supernormal profits.

### 6.1. Exploitation Capability

Early research focuses on rules and regulations under exploitation capability (Noblet et al., 2011). Moreover, early literature values the importance of exploitation capability on supply chain context (Lane and Lubtiken, 1998). Findings of the study focus on core competency and application as critical aspects of the exploitation capability in today's dynamic supply chain context. Newly transformed knowledge is commercially applied to enrich core competencies of the supply chain under exploitation capability.

#### 6.1.1. Core competency

In terms of absorptive capacity and core competency perspectives, early researchers identify that exploitation capability is firm's capacity to commercialize new external knowledge to achieve competitive edge while addressing changing environmental needs (Noblet et al., 2011; Cohen and Levinthal, 1990). It is argued that focus on core competencies leads to achieving competitive advantages (Prahalad and Hamel, 1991). Aligning with early literature, this study argues that exploitation capability needs to base on core competencies.

Dynamic capability perspective analyzes all sources of wealth creation that are captured by firms (Teece et al., 1997). Moreover, dynamic capabilities are used to reconfigure internal and external competencies to address changing environmental needs (Teece et al., 1997). Dynamic capability perspective requires reconfiguring the existing core competencies through the exploitation of new learning to address rapidly changing environments (Teece et al., 1997). Findings of the study reveal that supply chain core competence relates to the core business of supply chain relationship. This is in line with the terminology of dynamic capability theory that argues core competence relates to fundamental businesses of the firms (Teece et al., 1997). Furthermore, this study has identified the importance of core competencies derived from the joint product as well as process implementations. A review of the literature indicates that core competencies are identified as the collection of learning in the organization and more linked with products and business units (Prahalad and Hamel, 1990). The degree to which core competence is distinctive depends on how difficult for the competitor to replicate core competencies (Teece et al., 1997).

Core competency concept ensures the ability to dominate the business of the organization, securing future opportunities, access to multiple markets, and customer benefits (Prahalad and Hamel, 1990). Further, the example of analysis of research findings indicates that new joint product and process introductions result in the dominant position of the supply chain in the market and secure joint future market opportunities.

#### 6.1.2. Application

Articulation of resource mobilization in implementing new knowledge is identified as the application (Noblet et al., 2011). Early literature mostly highlights the outcome of the application (Noblet et al., 2011). In other words, early literature focuses on the explicit aspects of the product commercialization process such as rules and regulations (Cohen and Levinthal, 1990), while the dynamic aspects are not much considered (Coltman et al., 2009). Coltman et al. (2009) argue that critical role of the process of supply chain contracts lies in the success of supply chain application. Research findings reveal that the complexity and uncertain nature of supply chain context require adjusting contracts on an ongoing basis. Similarly, early literature has identified that supply chain needs to adjust contracts on an ongoing

basis, evolving from less compatible contracts to complete forms of contractual agreements (Coltman et al., 2009). Supply chain contract design involves considering initial expectation, negotiation, renegotiation, execution, and reevaluation of contracts (Coltman et al., 2009). Furthermore, this study enriches the existing literature by stating that contract evolution is the cyclical process in supply chain context and it is difficult to find an end point.

Moreover, it is argued that implementation of promises is achieved through contracts; however, subjectivity is inherent in all contracts (Rousseau, 1989). Psychological contracts and implied contracts are two forms of subjective contracts, while psychological contracts refer to the perception of an individual, the implied contract refers to the mutual obligation on characterizing a relationship (Rousseau, 1989). A critical review of the literature indicates that contracts in supply chain contexts add more subjectivity and dynamism (Coltman et al., 2009; Rousseau, 1989). Furthermore, this study enriches the existing literature by stating that final moment changes of promises involve subjective judgments of top-level managers to handle the implementation. In this context, early literature argues that inefficient and inequitable supply chain contracts can occur due to cognitive shortcomings in the human decision-making process (Coltman et al., 2009).

## **6.2. Institutionalization process**

Institutionalization indicates the process of implementing individual- and group-level learning to organizational level (Crossan et al., 1999). System changes and supply chain investments are frequent features of institutionalization process (Crossan et al., 1999).

### **6.2.1. System changes**

System changes are an important aspect of institutionalization process (Crossan et al., 1999). System changes are changes that occur in organizations due to institutionalization process (Crossan et al., 1999). In today's dynamic business environments, organizations are considered as open systems. It consists of the set of interrelated subsystems to design and balance the rapidly changing environmental needs (Cameron and Green, 2009). This approach argued that there is no one best method to design and manage an organization and it is important to maximize the fit between individuals, groups, and organizational needs in system changes (Cameron and Green, 2009). Similarly, findings indicate the importance of not only maximizing the fit between individuals, groups, and organizational needs in system changes, but also this study enriches the existing literature by stating the critical role of balancing the product, process, as well as the context of the supply chain.

System changes involve communicating changes to key players, working to minimize revisiting forces and maximize driving forces, agreeing on a change plan, and affecting the existing tasks and informal activities (Cameron and Green, 2009). Similarly, findings indicate the importance of communicating changes to key players. Furthermore, this study enriches the existing literature by stating that complex supply chain system changes involve the sequence of activities; therefore, it is crucial to address concerns in a step-by-step manner. Some researchers value starting system changes in small scale, growing steadily, not planning whole changes, and yet expect challenges and chaos in system change process (Cameron and Green, 2009). Bullington and Bullington (2005) found that close supply chain relationship intends to smooth out the effect of unplanned changes and maximize benefits. System changes in supply chain context are a complex process. A review of the literature indicates that future logistics system changes require comprehensive, long-term leadership and planning (Bowersox et al., 2000). Supply chain system changes require around 20% of scope under the direct control of the respective executive and around 80% of scope under other managers (Bowersox et al., 2000). Therefore, logistics change leaders need to sell ideas and become a cross-functional catalyst (Bowersox et al., 2000).

### **6.2.2. Supply chain investments**

It refers to new investments in diverse aspects of the organizations in embedding new learning (Crossan et al., 1999). Supply chain investments are identified as the investment of time, money, and people in

the development of interorganizational relationships (Kocabasoglu et al., 2007). Furthermore, this study enriches the existing literature by stating that investment in terms of top management time allocation and money allocation enriches the implementation of supply chain learning while facilitating the endurance of core competencies. Early literature mostly focused on physical investment and information technology of supply chain context (Cannon and Perreault, 1999). Minimal attention is given to human aspects of investment and specifically intention (Cannon and Perreault, 1999). In today's knowledge-based economy, investment theory is extended to encompass intellectual capital, the value of knowledge, and human capital (value of the investment of human skills and education) (Kocabasoglu et al., 2007). Cannon and Perreault (1999) state investment in adaptation to process, product, or procedures is specific to the needs and capabilities of supply chain partner and it has little value outside the specific relationship. Similarly, findings indicate that supply chain investments are specific to the needs of dyadic partners and they build on the existing infrastructure. Therefore, depending on the findings of the cross-case analysis, the study makes the following contribution and proposition to the literature.

Organizational level of supply chain learning consists of institutionalization process that underlies exploitation capability;

- a. Exploitation capability consists of core competency and application.
- b. Institutionalization processes consist of system changes and supply chain investments.

Proposition: Core competency and application are influenced by system changes and supply chain investments at the organizational level of supply chain learning.

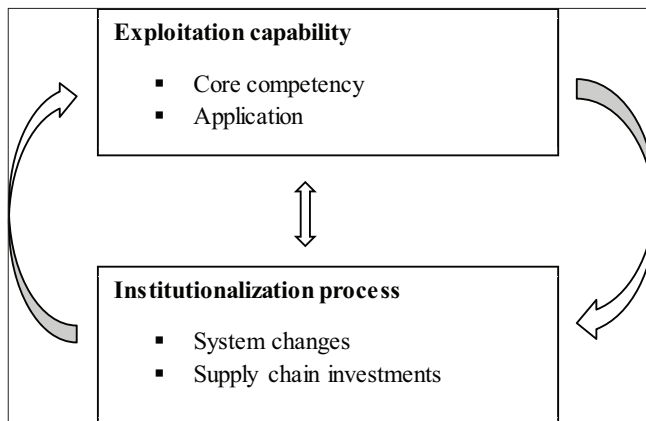
The conceptual model of the study is indicated in Figure 1.

## 7. Conclusions of the Study

Findings of the cross-case analysis indicate that organizational level of supply chain learning consists of institutionalization process that underlies exploitation capability. Exploitation capability consists of core competency and application. And, institutionalization processes consist of system changes and supply chain investments. Further, the study identifies that core competency and application are influenced by system changes and supply chain investments at the organizational level of supply chain learning.

Findings of the study focus on core competency and application as critical aspects of the exploitation capability in today's dynamic supply chain context. Newly transformed knowledge is commercially applied to enrich core competencies of the supply chain under exploitation capability. Research findings reveal that the complexity and uncertain nature of supply chain context require adjusting contracts on an ongoing basis. In today's dynamic business environments, organizations are considered as open systems. It consists of the set of interrelated subsystems that require to design and balance dynamics in the business environment. Furthermore, this study enriches the existing literature

**Figure 1:** Conceptual model of elements of organizational level of supply chain learning



by stating that investment in terms of top management time allocation and money allocation enriches the implementation of supply chain learning while facilitating the endurance of core competencies.

## 8. Theoretical and Practical Implications

The original contribution of this study enhances the relative absorptive capacity theory and organizational learning theory in supply chain context. It reconceptualizes the elements of exploitation capability and institutionalization process considering the behavioral dynamics of supply chain context.

Practitioners need to focus more on enhancing core competencies, the evolution of hard and soft elements of supply chain contracts. Further, practitioners need to consider the interdependencies of key players, working to minimize revisiting forces and maximize driving forces in system changes, and need to focus on human investment in the implementation of supply chain learning.

## 9. Future Research

Future researchers can test the main contributions and proposition in different industries to validate the theory of the study. It is recommended to use positivist world view to test the elements of exploitation capability and institutionalization process to explore the reliability of the conceptualizations. In today's highly dynamic and complex supply chain context, it is recommended to more focus on behavioral dynamics of exploitation capability and institutionalization processes to ensure successful implementation of new innovations.

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