Relating Supply Chain Risks to Supply Chain Strategy

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Abstract—Contemporary supply chain (SC) seems to be more susceptible to different risks and disruptions than ever. Almost all industries have seen increased competitive pressure in the business environment. This, high risk vulnerable, environment has compelled firms to make their intra firm business and inter firm SCs more risk preventive. In this tough business environment, the ultimate aspiration of managers is obviously to develop efficient risk mitigation strategy. However, risk mitigation is costly which necessitates firms to identify the most probable and critical risks that might happen to their particular SC, before engaged in expensive actions, and then they can be able to prepare contingency plan to tackle them effectively. Therefore identifying specific risks and ways of managing the same in specific industry/firm and strategy is crucial. In this paper, we relate SC risks to strategy types: defender, prospector and innovator. We relate the SC risks reported in literature to these three strategy types. Later we relate ‘trust’ types to risk sharing and term of relationship among SC partners. We then plan to conduct an empirical investigation to verify the framework presented in this paper.

Keywords—Supply chain risks; Supply chain Trust; Risk sharing in supply chain

I. INTRODUCTION

The concept of risk has been extensively studied in literature from different perspectives. To mention few of them: Cucchiella and Gastaldi [1] studied real options theory to coverage of one or more risks inside the supply chain (SC). Mitchell [2] covers different types of risks and risk reduction strategies in organizational purchasing. Risk assessments, contingency plans, and risk management within the context of in-bound supply has been covered by [3]. A model of strategic risk taking incorporating environmental, industrial, organizational, decision maker, and problem variables was presented by [4]. Zsidisin [5] provided a grounded definition of supply risk, focusing on the sources of supply risk, emanating from individual supplier factors and market characteristics, and the outcomes of supply risk events, which involve the inability of purchasing firms to meet customer requirements and threats to customer life and safety. Under risk and organizational behavior, [6], described the relationship between risk and strategic management. However, a research gap still exists for investigating and relating risks with the supply chain strategy pursued by an organization and in identifying the degree of importance of SC risks to Strategy. Therefore, the objective of this paper is to fill this gap by examining the various types of risks in a SC and relate them to strategy types .The study also extends the exploration to find out the role of trust in risk reduction and risk sharing implications in SC. Research questions: are SC risks relatable to SC strategy? Are SC risks specific to SC strategy or some risks are common to all strategies and some are specific? Is there an association between the partnership type and trust types, in relation to risk sharing and term of the relation, among SC actors? At this conceptual stage, a temporary answer (conclusion) has been given, (refer table I and section VI), based on the extant literature, in the form of propositions.

A. Methodology

The methodology of the research paper is empirical as well as exploratory in nature. Since this paper is at its conceptual stage, so far, we have developed propositions based on literature which can give temporary answers to the research objectives and research questions stated. But this temporary conclusion (answer) requires empirical data to verify the propositions within the framework. For this, Data will be collected through structured questionnaire-based survey and subjects/informants will be managers and experts with relevant expertise in the study context. Data will be analyzed using appropriate statistical application software such as spss to test whether the propositions can be supported or not then, based on results, final conclusion will be drawn.
II. DEFINITIONS OF RISK

Risk has been defined as “the extent to which there is uncertainty about whether potentially significant and/or disappointing outcomes of decisions will be realized” [7]. Outcome uncertainty, outcome expectations, and outcome potential are inherent of this definition. Baird and Thomas [8] have defined risk from eight different perspectives. Their arguments incorporate views from finance, marketing management, strategy, and psychology. Variance of return, variance and market risk are focusing on organization’s financial return. Risk as innovation and risk as entrepreneurship are strategy focus, risk as lack of information is marketing, risk as disaster and accounting risk measure relate to a company going to bankrupt. These definitions of risk provide evidence that risk is a multidimensional construct and differs according to business function. In the academic literature risk is often defined as “the variance of the probability distribution of outcomes” [9]. However, [10] found that very few managers define risk in those terms. Instead, managers identify (1) the downside of risk, (2) its magnitude of possible losses, (3) the act of risk taking involving the use of skills, judgment and control, and (4) risk as a concept that cannot be captured with a single number. Therefore ‘risk’ can be perceived in different ways, and no single definition of risk may be appropriate in all circumstances. For this paper the elements of risk definition comprising of outcome uncertainty, outcome expectation and outcome potential are very important.

III. CATEGORIES OF SUPPLY CHAIN RISKS

Before companies can devise effective means of reducing supply-chain risks, managers must first understand the universe of risk categories as well as the events and conditions that drive them. Then, armed with clear, specific knowledge about these crucial risks, companies can proceed to select and tailor mitigation strategies likely to be most effective. Broadly categorized, potential supply chain risks include delays, disruptions, forecast inaccuracies, systems breakdowns, intellectual property breaches, procurement failures, inventory problems and capacity issues [11]. They, [11], also reviewed the risk drivers and mitigation strategies. Cucchiella and Gastaldi [1] divided SC risks into categories of internal (involving such issues as capacity variations, regulations, information delays, and organizational factors) and external (market prices, actions of competitors, manufacturing yield and costs, supplier quality, and political issues). Kleindorfer and Saad [12] categorized risks, as arising from coordinating complex systems of supply and demand (internal), and disruptions (external).

As per [13], risks can be viewed as external (Natural, political, competitor and market) and internal (Available capacity, internal operation and information system). Ritchie and Marshall [14] argued that business and organizational risks emerge from one or more of the following sources (1) environmental factors; (2) industry factors; (3) organizational factors (4) problem-specific factors; and (5) decision-maker related factors. Rao and Goldsby [15] developed an overall typological model of risk, which is useful in identifying overall risks in the supply chain. Their typology, the source of SC risk, encompasses environmental risk (political, policy, macroeconomic and social), industry risk (input market, product market and competitive), organizational risk (operating, credit, liability and agency), problem specific risk (risk interrelationship, objectives and constraints and task complexity), decision maker risk (knowledge / skill / biases, information seeking, rules and procedures, and bounded rationality). Manuj and Mentzer; Christopher and Peck [16, 17] also suggested four categories of risks: supply, demand, operational, and security risks. The above categories revealed that risks can be viewed from different perspectives. The broad and extensive categorization of risk sources by [14] and risk drivers and mitigation strategy by [11] gives us a good clue to examine the relationship between SC risks and strategy types, which clearly shows linkage between SC risks and the organizational strategy pursued.

IV. REVIEW OF SUPPLY CHAIN RISK

No company today can operate in a completely secure environment without risk. Therefore we can say that the process of risk management is crucial for uninterrupted operations of companies in all fields of business; and SC risk management is "a process that supports the achievement of SC management objectives" through the whole SC, not only in a single company. Because of the uncertain market conditions, demands of globalization and increasing external threats, [18] concluded that, in order to assure continuity of operations in an organization and in a SC certain measures have to be taken. Therefore each organization must respond to risks, but there are many alternative ways in which the process used can be applied. Risk must first be identified. Once risks are identified, responses must be selected. Wright and Datskovska [19] addressed that after years of globalization, lean processes and the geographical concentration of production, most finance executives would probably say that their supply chains and transport networks have become more efficient. These advances in efficiency, however, have also changed the risk profile for their supply chains. As a result, many organizations need to take a hard look at SC risk and to review their plans and procedures for dealing with a broad range of new contingencies.
The proposed theoretical framework by [20] deals with alternative ways in which organizations define their product market domains (strategy) and construct mechanisms (structures and processes) to pursue these strategies. Based on this study of adaptive cycle, it had been identified that organizations trail certain structure and process, which is suitable for the organizational strategy pursued. Hence their vulnerability to different risks diverges according to the strategy of a firm. Attempts have been done to relate organizational strategy to different business entities. Fisher’s [21] empirical result revealed significant association between product nature and SC strategy. Soni and Kodali [22] investigated the state of strategic fit between “competitive strategy” (CS) and “supply chain strategy” (SCS). The major findings bear out the existence of a causal relationship between CS and SCS. Wagner and Bode [23] shed light on the relationship between supply chain risks and supply chain performance. Their result showed negative associations between supply and demand side risks and SC performance, that is, these risk sources (supply and demand risks) are relevant contextual variables in strategic SC decisions. A pioneering work by [24] provides an uncertainty framework based on supplier risk and demand risk in the context of products that are functional or innovative, stable or evolving. He argues that SC strategies need to be matched to the right level of demand and supply risks encountered. Chatterjee, Sharma and Shanker [25] examined the relationship amongst business strategy, management control systems, cultural dimensions and management practices in business Organizations.

Since the competitive strategy and supply chain strategy is different for defender, prospector and innovator organizations, it can temporally be concluded that supply chain risks are relatable to organizational strategy. That is to say, organizations that pursued different strategy cannot be vulnerable to all risks in a similar degree. Consequently, we conceptualize the study proposition, that SC Risks are relatable to organizational strategy/typology (Defender, Prospector and innovator).

A. Supply Chain Risk Mitigation

Risks can be mitigated by an implicit tradeoff between insurance and cost reduction. Most actions available to organizations involve knowing what risks, the organization can cope with because of their expertise and capabilities, and which risks they should outsource to others at some cost. Some risks can be dealt with, others avoided. Research has identified few risk mitigating variables: sharing information, incentives apportioning, risk sharing, corporate social responsibility [11, 26]. Faisal et al. [27] identified eleven such variables which can act as factors which help in minimizing risks in a supply chain. (1) Information Sharing; (2) Agility; (3) Trust; (4) Collaborative relationships; (5) Information security; (6) Corporate social responsibility (7)Aligning incentives and revenue sharing policies; (8) Strategic risk planning; (9) Risk sharing; (10) Risks knowledge; and (11) Continual risk analysis.

In Literature [16, 28] there exist six general risk management strategies: Postponement, Speculation, Hedging, control/share/transfer, Security and Avoidance.

1) Postponement

Postponement involves delaying the scheduled availability of resources to maintain flexibility. Postponement includes labeling, packaging, assembly, and manufacturing. It is applicable both in supply and demand side in high level of demand and supply risk environment.

2) Speculation

Speculation is risk management strategy of the demand side. In speculation, everything is planned in advance from buying of raw materials, forward placement of inventory in big markets, and early scheduling of production, all in anticipation of future demand(applicable in low level of demand risk environment).

3) Hedging

Hedging is a risk management strategy of supply side, requiring high investment justified only when if a supply chain faces high supply risks. In a global supply chain context, hedging is undertaken by having a globally dispersed portfolio of suppliers and facilities such that a single event (like currency fluctuations or a natural disaster) will not affect all the entities at the same time and/or in the same magnitude (applicable in high level of supply risk environment).

4) Control/share/transfer

Control, share, or transfer of risks takes the form of vertical integration, contracts, and agreements. Vertical integration increases the ability of a member of a SC to control processes, systems, methods, and decisions. Vertical integration may take the form of forward (downstream) or backward (upstream) integration, and is therefore, both a supply side and demand side risk management strategy.

5) Security

Supply chain security encompasses information systems security, freight breaches, terrorism, vandalism, crime, and sabotage. Security strategy is aimed at increasing a supply chain’s ability to sort out what is moving, and identify unusual or suspicious elements.
Avoidance strategies are adopted by SCs operating in all types of environment. It can be of two types: Type 1 and Type 2. Type 1 is concerned about dropping some risks by managers in a SC who are well aware of the opportunities and tradeoffs. It is adopted when a SC has an option not to enter a high demand or supply risk environment. Type 2 is all about reducing frequency and probability of occurrence of a risk event and is adopted when a company has no option but to enter a high demand or supply risk environment. [28, 29]. From this section we have observed that the risk mitigation strategies are different according to the competitive advantage organizations do have, the market condition, product market (strategy), the expertise available etc.

B. Typology of Organizational Strategy

Organizational strategy is concerned with the organization’s long term direction and with the context of organizational activities. Three strategic typologies or organizational strategies for the intention of this literature review, are, the innovators proposed by [30] and the defenders and prospectors proposed by [20].

1) Defenders(D)

An organization implementing a defender strategy deliberately enacts, and maintains an environment for which a stable form of organization is appropriate. Stability is chiefly achieved by the Defender's definition of, and solution to, its entrepreneurial problem. Defenders define their entrepreneurial problem as how to seal off a portion of the total market in order to create a stable domain and they do so by producing only a limited set of products directed at a narrow segment of the total potential market. Within this limited domain, the Defender strives aggressively to prevent competitors from entering its "turf". Such behaviors include standard economic actions like competitive pricing or high quality products, but Defenders also tend to ignore developments and trends outside of their domains, choosing instead to grow through market penetration and perhaps some limited product development.

2) Prospectors(P)

Prospectors, in many ways, respond to their chosen environments in a manner that is almost the opposite of the Defender. Generally speaking, the Prospector enacts an environment that is more dynamic than those of other types of organizations within the same industry. Unlike the Defenders, whose success comes primarily from efficiently serving a stable domain, the Prospector's prime capability is that of finding and exploiting new product and market opportunities. For a Prospector, maintaining a reputation as an innovator in product and market development may be as important as, perhaps even more important, than high profitability. In fact, because of the inevitable "failure rate" associated with sustained product and market innovation, Prospectors may find it difficult consistently to attain the profit levels of the more efficient Defenders. Defining its entrepreneurial problem as how to locate and develop product and market opportunities, the Prospector's domain is usually broad and in a continuous state of development. The systematic addition of new products or markets, frequently combined with retrenchment in other parts of the domain, gives the Prospector's products and markets an aura of fluidity uncharacteristic of the Defenders.

3) Innovators(I)

These are differentiated by the relative emphasis placed upon their ability to make changes in design and to introduce new products quickly. The innovators share certain characteristics with the prospectors. In both groups, conformance and performance quality hold top ranked spots. Dependability is also important to the innovators. There were no significant differences between the innovators and the prospectors on after sales service. As with the defenders, the innovators share lower degrees of emphasis on the ability to carry a broad product line and on volume flexibility. In comparison to the other strategies, price is least important to this group.

V. THEORETICAL FRAMEWORK

When the SC risk definitions, classifications, and categorizations from the extant literature are observed, in the light of strategy typologies of defender, prospector and innovator, we conceived an association among the risks and strategy types. We also have very important evidences from the literature that have been attempted to relate strategy with different variables in SC. For example: structure and process with organizational strategy pursued [20]; product nature and SC strategy [21]; competitive strategy and supply chain strategy [22] and supply chain risks and supply chain performance [23]. These all combined to form the basis for the theoretical foundation of this paper. This is because, each type of strategy has its own unique strategy for relating to its chosen market(s), and each has a particular configuration of technology, structure, and process that is consistent with its market strategy. As a result the level (criticality) of SC risk to these strategies differs significantly. As can be seen in table I, diverse risk types which are drawn from literature are associated to the three strategy types, as high risk (H) and low risk (L) levels. Let us have a look at, how it was conceptualized. According to the nature of the three organizational strategies discussed in section IV (B), and SC risk types, it is observed that the risk level to the three strategies vary due to the
expertise/know how available, the competitive strategy trail, the structure they implement etc. This is to mean that some risks are critical to some of the strategy while some are reasonably common to all. Let us see some examples from table I.

**Buy-Type risk** - there are three buy types: new buy, modified re-buy and straight re-buy. The straight re-buy is characterized by low levels of risk, and even first time purchases, although more risky than straight re-buys, but less risky than modified re-buys. The reason could be, in the modified re-buy the new buyer has a prior standard with which he/she and his friends can make a comparison. There exists, therefore, the possibility of making more accurate and comparative evaluative judgments on his/her buying decision. Since, Innovators are constantly introducing modified products; hence, this risk type (buy type) is critical to innovator strategy, but not to defenders, as they usually sell standard and familiar products to customers. **Product Characteristics** - for a high value, technically complex product, a high level of risk will be associated with its purchase. This type of risk is more related to prospectors strategy, as they constantly introduce new (unfamiliar to customers) products than the defenders and innovators. **Obsolescence risk (Major shift in demand)** - unlike prospectors and innovators, defenders are mostly stick to standard and few verities of products, to take advantages of economics of scale. They almost ignore developments and trends outside of their domain (i.e. very low in innovation and development of new products), therefore they are likely to face a major shift from their customers. In that, there exists, a high risk of wiping out of the market/competition. **Country/culture related risks** - prospectors and innovators are constantly introduce new and modified (innovated) products in to the market dynamically, hence they will have inadequate knowledge about people, culture, and Country of origin of buyers which affects an individual’s risk preference. As a result, these types of risks are more important to innovators and prospectors. In similar manner, risks linked to innovation and entrepreneurship appear to be more related to prospectors and innovators while risks which may have a consequence of losing scale of economies are more related to defenders. Generally marketing and research and development related risks are more important to prospectors, finance and production risks are more important to defenders while buy type (innovation with major modification) related risks are more significant to innovators. Therefore, incorporating the literature on the characteristics of the organizational strategies and supply chain risks, as discussed above, we forward the following proposition. In accordance with the proposition, we relate different types of supply chain risks reported in literature to defenders (D), prospector (P) and innovator (I) strategies, as relatively high risk (H) and low risk (L) levels (as shown in table I). We also suggest SC strategy response to mitigate the risks. Obviously there exists medium risk levels, but because of difficulty in scaling, we excluded the medium risk level.

*P1:* We propose that supply chain risks are relatable to organizational strategies (Defenders, prospectors and innovators). We argue that some supply chain risks are more significant to some of the organizational strategies while others are common to all strategies under consideration (as given in table I).

**TABLE I. TYPES OF RISK, ORGANIZATIONAL STRATEGY AND SC STRATEGY RESPONSE TO THE RISKS**

<table>
<thead>
<tr>
<th>References</th>
<th>Type of risk</th>
<th>Level of Risk</th>
<th>SC strategy Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>P</td>
<td>I</td>
</tr>
<tr>
<td>Baird and Thomas [8]</td>
<td>Risk as disaster</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Simons [31]</td>
<td>Asset impairment risk</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Meulbrook [32]; Simons [31]</td>
<td>Operations risk</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Mitchell [2]; Manuj and Mentzer [16]</td>
<td>Buyer demographics</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Buyer’s personality</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Country/culture</td>
<td>H</td>
<td>H</td>
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<tr>
<td></td>
<td>Degree of customer/supplier interaction</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Product characteristics</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Baird and Thomas [8]</td>
<td>Variance risk</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Meulbrook [32]</td>
<td>Fiscal risk/currency</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Chopra and Sodhi [11]</td>
<td>Obsolescence risk (Major shift in demand)</td>
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The exploration of the paper also extends to contain the role of trust in establishing and maintaining relationships among SC partners in order to reduce and share risks. The detail explanations about the trust types and SC partnership, as well as the positions are given in section VI.

VI. TYPES OF TRUST AND SUPPLY CHAIN PARTNERSHIP

Supply Chain Risk Management (SCRM) is a growing and challenging area with lot of research potential to be explored further. The risk generating factors coupled with minimizing factors gives a further area of research in testing them, in specific, industries and thereby sorting, identifying and adding variables in the relevant family. Accordingly, firm specific risk management strategies can also be identified and sorted along with intervening factors in successful implementation of the strategies [29]. The findings on the critical issues in SCRM, implementation [36] revealed a marked emphasis on the “soft”, relationship related aspects on the one hand, and on the somewhat “harder” strategy related aspects on the other. The following three issues were captured: first, an openness to share risk related information along with the willingness to accept SC risks as joint risks; second, the recognition of the SC strategy’s risk implications, and third, the notion of supply chain transparency. The above three points will not be institutionalized in SC without trust. Therefore, this leads us to investigate the role of trust to establish and maintain partnership among SC members, in order to reduce and share risks as discussed below.

Trust has received a great deal of attention in social psychology, sociology, economics, and marketing. Each discipline offers unique insights into the nature of trust, its definition, and the processes through which it develops. For this reason, the literature on trust although valuable, seems to be characterized by heterogeneity and ambiguity in its definition and evolving process. Our intention in this paper is to investigate the role of trust in establishing and maintaining relationships among SC partners in relation to risk sharing and risk reduction. The study results by [37] revealed that, trust could evolve through four building processes: calculative-based process, predictive-based process, intention-based process, and identification-based process and that trust meanings and determinants vary with the trust form. Moreover, the study qualitatively identified the corresponding determinants and manifestation in a SC of an emerging market.

Successful process integration between partners requires trust. With silo mentality and lack of information visibility, trust is seen as the major stumbling block in supply chain management. Trust occurs over time between supply chain partners, as each participant earns trust while it builds its reputations among the other businesses. Even though this sounds impossible, relationships employing trust result in win-win for the participants. Unfortunately, company practices and human nature will not change overnight. Until parties understand that it is in their own best interest to trust each other and share information, SC management success will be an uphill battle [38]. Naturally human beings and hence business organizations are not likely to trust another party without any logical or some calculative measures.

The Several meanings attributed to trust could be classified into four groups: the calculative-based trust, the predictive-based trust, the identification-based trust [39] and the intentionality-based trust [40]. According to [37] trust has more than one meaning. This can be explained by the amount of the relationships developed within a particular SC and also the nature of these relationships (in term of duration, specific investment interpersonal relationships, etc). These trust forms have distinctive characteristics:

A. The calculative based trust

This type of trust is a sense of calculation, a sort of rational optimization, in so far as a manager does not choose his partners in an arbitrary manner, but rather by using a calculative-based logic by which he/she attempts to reduce
the inherent uncertainty and the possibility of damage which could be caused by the relationship. In this regard, an executive officer in charge of supply management relies on the suppliers who meet their selection criteria. Experts also agreed with the idea that trust is the result of a prediction and a speculation made based on some objective factors that are easy to assess. To have trust in a supplier means that he/she has a good financial capacity, the required production resources, a sound organizational structure, the needed skills in the firm, and a human potential. Accordingly, in order to develop this form of trust, detailed information about the partner is required and acknowledged [37]. Furthermore, [41] also considered that acknowledgment of a partner’s useful knowledge, experience, and capabilities is critical to alliance formation.

B. The predictive based trust

Trust, in this case, relates to a judgment in retrospection. It assumes initial interactions occurring with a partner. This trust form expresses honest and ethically acceptable behavior. In this aspect, a chief executive in an international firm defined trust as: “a set of values conveying the need to ground all managerial relationships in professional as well as ethical values.” For others, trust is closely related to the ability to keep promises. There are customers on whom they rely, they take their purchased items without paying, but respect the deadline they agreed on together. Some people also settled that trust is based on accurate information. As a result, they are inclined to rely only upon partners who provide reliable information [37].

From literature we adopt that Trust; information sharing and fair share of profits are basis of good partnerships; hence risk reduction and/or sharing can be realized. Based on these (calculative and predictive) types of trust, we put forward the following proposition:

\[
P_{2a}: \text{The Calculative based trust and the predictive based trust forms have a Short term relationship role among SC actors.}
\]

\[
P_{2b}: \text{If a relationship is built on Calculative and predictive based trust forms then, risks with higher stakes will not be shared.}
\]

C. The identification based trust

This form of trust stands for the highest trust level and is reached only when the partners develop common values and shared feelings of interdependence. In that case, the relations are very close and transactions are based essentially on words. Trust suggests that a sale is made on a phone call, products delivery without any guarantee; because the buyer is considered as a partner, he can never cause harm to the trustor firm.

D. The intentionality based trust

Trust constitutes a psychological characteristic motivated by emotional aspects. It is a voluntary decision which is not based on solid arguments, but rather on feelings. “Trust is the result of a natural selection; there are people whom one feels worthy of trust, it is not the case with others.” It should be noted that in the four forms previously stated, trust was strongly linked to risk and uncertainty. Risk taking, preference for the partner, fewer formalized controls, offers of assistance and psychological security are found to be the main manifestations of trust.

We also urge that these (Intentional and identification) types of trust could not be preferred by SC members for partnership building; it can only be possible in long term relationship such as Japanese feudal structure, as evidenced by [42]. Hence the propositions below are forwarded:

\[
P_{3a}: \text{The intentionality based trust and identification based trust forms have long term relationship role among SC actors.}
\]

\[
P_{3b}: \text{If a relationship is built on higher level of intentionality and identification forms of trust then, risks with higher stakes will be shared.}
\]

The existence of these trust forms (the calculative-based trust, the predictive-based trust, the identification-based trust and the intentionality-based trust) in SC have great implication for the types of SC risks that can be shared/insured/minimized. SC risks that cannot be shared are insured; and those cannot be shared are minimized by management.
VII. CONCLUSION

Based on relevant literature, this study tries to relate the SC risks to organizational strategy/typology: defender and prospector and that of innovator. We then forward propositions again from the literature. Considering trust, information sharing, and fair share of profits, as basis for a good partnership, we also relate the four trust forms of [37], to the ten of relationship and risk sharing among SC partners. Evidences from the review and qualitative study by [42], on US big three automakers and that of Honda and Toyota of Japan, give support to our hypotheses (p2 and p3). At the current stage, the paper enlightens a new approach to the SC risk body of knowledge by bringing a new insight that SC chain risks are relatable to SC strategy. This may help managers identify the most critical risks to the strategy they pursued in their SC channel. Furthermore, this theoretical foundation holds good scope for the next stage of the study, which will be a verification stage using empirical data.

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