



## Variables Influencing Supply Chain Effectiveness

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### ABSTRACT

*Supply chain effectiveness is determined by the level of trust, cooperation, commitment and collaboration among supply chain intermediaries. The present study highlights the degree of trust, commitment, and cooperation in 44 small scale units operating in district Udhampur of J&K State. The research framework was examined by empirical analysis of primary data collected. The results of ranking tables revealed that trust is generated by meeting day-to-day promises, their exists mutual consent for collaboration & cooperation among supply chain members and trust as the main determinant of supply chain effectiveness.*

**Keywords : Trust, Cooperation Small Scale Industries (SSI's)**

### INTRODUCTION

Supply chain is a link/association among suppliers, manufacturers, wholesalers, retailers, customers etc to perform the business tasks smoothly & cooperatively. These members/parties work together in order to achieve broader objectives. The effectiveness of supply chain depends upon numerous variables/factors. To quote few the variables that affects or influences supply chain effectiveness are trust, cooperation, collaboration, commitment, shared goals, information sharing and communication, joint decision making etc. Trust is identified as critical issue that promote collaboration, flexibility, risk taking, shared information, shared resources (Doney, 1998) and observed as a part of competitive advantage of manufacturing companies in Germany, Japan and other parts of world (Humphrey & Schmitz, 1998). Trust is the confidence that the other party will do what it promises to do and is vital for strategic alliances (Burt et al., 2003) with willingness to take risk (Mayer et al., 1995). Trust exists when one party has confidence in an exchange partners reliability and integrity (Morgan and Hunt, 1994). Commitment however means "an implicit or explicit pledge of relational continuity between exchange partners" (Dwyer et al., 1987) and suggests a future orientation in which a firm attempt to build a relationship that can be sustained in the face of unanticipated problems (Fynes & Voss, 2002). The eminent role of frequent and timely communication & information is important in building trust because it assists in resolving disputes and aligning perceptions & expectations (Morgan & Hunt, 1994). Cooperation on the other hand creates situations in which firms work together to achieve mutual goals (Anderson & Narus, 1990). Collaboration foster trust as it considers "two or more chain members working together to create a comprehensive advantage through sharing information, making joint decisions and sharing benefits which results from greater profitability of satisfying end customers needs than acting alone" (Togar & Sridharan, 2002).

### REVIEW OF LITERATURE

The existing literature depicts that existence of trust, commitment, collaboration and cooperation among supply chain intermediaries had bought lot of avenues for profitable and supporting business. Clegg (2004) observed trust in Asian countries promotes integrity, loyalty, competency, consistency and openness or transparency. The experience of various researchers & business practioners over time had suggested several strategies, beyond professional competence for building trust which includes encouraging friendship, facilitating communication by sharing information and keeping

partners well informed about plans. Cooperation in inter-firm relationships exists when firms exchange basic information and have some long term relations with a limited number of crucial suppliers or customers (Danny, et al., 2004). Cooperation has been conceptualized from the perspective of motive, from relations or situations or from behaviours (Chen, et al., 1998). As conceptualized by Morgan and Hunt (1994), cooperation is treated as the mutual perception of a situation in which the two parties are acting congruently. Many scholars, researchers, experts, academicians i.e. Teas & Sibley (1980), Anderson & Weitz (1992), and Wilson (1995) hold the viewpoint that commitment consists of a set of factors including desire, willingness, sacrifice behaviour, expectation of continuity, belief and importance of the relationship. The present study emphasises on the various variables i.e. trust, commitment, cooperation & collaboration influencing supply chain effectiveness in 44 small scale industries operating in district Udhampur of J & K State.

### RESEARCH METHODOLOGY

The primary data for the study were collected from 44 functional manufacturing SSIs registered under District Industries Centre (DIC), Udhampur of J&K State sub-divided into ten lines of operation comprising cement (8), pesticide (3), steel (3), battery/lead/alloy (5), menthol (2), guns (2), conduit pipes (2), gates/grills/varnish (5), maize/atta/dal mills (3) and miscellaneous (11). Census method was used to elicit response from owners/managers of the SSIs. Information was collected by administering self developed questionnaire prepared after consulting experts and review of literature which comprised of general information and various statements of trust, cooperation, collaboration and commitment. Items in the questionnaire were in descriptive form, ranking, dichotomous, open ended and five-point Likert scale. The data collected was further analysed with the help of SPSS (Version 16.00) for purification, checking validity and reliability. Ranking tables were used to elicit meaningful responses from the data.

### DATA INTERPRETATION & ANALYSIS

Table 1.1 highlights managers' response pertaining to four trust generating variables namely, "Meeting day-to-day promises", "Open information sharing", "Establishing personal relationships" and "Fair & beneficial business" in supply chain management relationships. "Meeting day-to-day promises" is assigned rank one by almost all the manufacturing units except for gates/grills/varnish/paint. "Open information sharing" is accorded rank two, followed by "Establishing personal relationships" with rank three and "Fair & beneficial business" by

rank four by all the managers of SSI's. Thus, trust helps in "Meeting day to day promises" is preferred by all SSIs for maintaining relationships with upstream and downstream partners. Trust for "Fair and beneficial business" would accrue once trust is generated through open information sharing and establishing personal relationships.

Table 1.2 shows unit-wise mean ranking of factors namely, "Mutual consent to collaboration", "Having a shared goal", "Belief in shared goal" and "Shared understanding of the problem" influencing supply chain effectiveness. All the manufacturing units under study: cements, battery/lead/alloy/, pesticides/insecticides, conduit pipes, menthol, guns, steel, gates/grills/varnish/paint, atta/maize/dal mills ranked one to "Mutual understanding to collaboration", rank second to "Having a shared goal", "Belief in shared goal" as rank third and "Shared understanding of the problem" ranked four. Thus, precursors of supply chain effectiveness are mutual consent to collaboration /cooperation with belief in shared goal and common understanding for resolving supply chain problems for mutual benefit.

Table 1.3 reveals ranking of variables considered vital for overall supply chain effectiveness in ten classes of small manufacturing firms in district Udhampur. The ranking variables are "Commitment", "Trust", "Communication", "Shared goals" and "Cooperation & Collaboration". "Trust" emerged as rank one factor in SC effectiveness. The other variables ranked and followed were Commitment (II), Cooperation & Collaboration (III), Shared goals (IV) and Communication (V). Thus, trust is considered as vital for promoting SC effectiveness by all the units under study.

## CONCLUSION

Supply chain effectiveness can be promoted by fostering trust, commitment, cooperation & collaboration among supply chain intermediaries. The study provides clues regarding the smooth working of supply chain in small scale industries. The findings of the study is limited to small scale industries of district Udhampur of J&K State, so results drawn cannot be generalized for medium or large scale industries functioning in other parts of country having dissimilar business environment.

**Table 1.1: Unit-wise Trust Generating Variables in SCM**

Manufacturing Units/Variables	Meeting day-to-day promises	Open information sharing	Establishing personal relationships	Fair & beneficial business
Cement	1.5 (I)	2 (II)	2.75 (III)	3.75 (IV)
Battery/Lead/Alloy	1 (I)	2.6 (II)	3.4 (IV)	3 (III)
Pesticides/Insecticides	1 (1)	2.3 (II)	2.6 (III)	3 (IV)
Conduit pipes	1.5 (I)	1.5 (II)	3.5 (III)	3.5 (IV)
Menthol	1 (I)	2 (II)	3 (III)	4 (IV)
Guns	2 (I)	2 (II)	3.5 (III)	2.5 (IV)
Steel	1 (I)	2 (II)	3 (III)	4 (IV)
Gates/Grills/Varnish/Paint	1.8 (II)	1.6 (I)	2.8 (III)	3.8 (IV)
Atta/Maize/Dal mills	1.33 (I)	1.6 (II)	3.3 (III)	3.6 (IV)
Others	1.90 (I)	2 (II)	2.27 (III)	3.81 (IV)
<b>Mean &amp; Rank</b>	<b>1.4 (I)</b>	<b>1.96 (II)</b>	<b>3.01 (III)</b>	<b>3.40 (IV)</b>

Note: Where 1 denotes "highest rank" and 4 denotes "lowest rank"

**Table 1.2: Unit-wise Ranking of Collaborative & Cooperative Factors Influencing Supply Chain Effectiveness**

Manufacturing Units/Factors	Mutual consent to collaboration	Having a shared goal	Belief in shared goal	Shared understanding of the problem
Cement	1.12 (I)	1.87 (II)	3 (III)	3.87 (IV)
Battery/Lead/Alloy	1 (I)	2 (II)	3 (III)	4 (IV)
Pesticides/Insecticides	1.33 (I)	1.66 (II)	3 (III)	4 (IV)
Conduit pipes	1 (I)	2 (II)	3 (III)	4 (IV)
Menthol	1 (I)	2 (II)	3 (III)	4 (IV)
Guns	1 (I)	2 (II)	2.5 (III)	2.5 (IV)
Steel	1 (I)	2 (II)	3 (III)	4 (IV)
Gates/Grills/Varnish/Paint	1 (I)	2 (II)	3 (III)	4 (IV)
Atta/Maize/Dal mills	1.33 (I)	1.66 (II)	3.33 (III)	3.66 (IV)
Others (Miscellaneous)	1.72 (II)	1.63 (I)	3.09 (III)	3.54 (IV)
<b>Mean &amp; Rank</b>	<b>1.15 (I)</b>	<b>1.88 (II)</b>	<b>2.99 (III)</b>	<b>3.75 (IV)</b>

Note: Where 1 denotes "highest rank" and 4 denotes "lowest rank"

**Table 1.3: Unit-wise Ranking of Variables Influencing Supply Chain Effectiveness**

Manufacturing Units/Variables	Commitment	Trust	Communication	Shared goals	Cooperation & Collaboration
Cement	1.87 (II)	1.5 (I)	4.12 (IV)	4.37 (V)	3.12 (III)
Battery/Lead/Alloy	2.4 (II)	1 (I)	4 (IV)	4.2 (V)	3.4 (III)
Pesticides/Insecticides	1 (I)	3.6 (IV)	4.3 (V)	3 (II)	3 (III)
Conduit pipes	2 (II)	1 (I)	4 (IV)	5 (V)	3 (III)
Menthol	2 (II)	1 (I)	5 (V)	3 (III)	4 (IV)

Guns	1 (I)	3.5 (IV)	3 (II)	4 (V)	3.5 (III)
Steel	1.6 (II)	1.3 (I)	3.3 (III)	3.6 (IV)	5 (V)
Gates/Grills/Varnish/Paint	2 (II)	1 (I)	3.2 (III)	3.8 (IV)	5 (V)
Atta/Maize/Dal mills	2.6 (II)	1.3 (I)	4.6 (V)	3.3 (IV)	3 (III)
Others	1.72 (II)	1.63 (I)	3.72 (III)	3.72 (IV)	4.1 (V)
<b>Mean &amp; Rank</b>	<b>1.81 (II)</b>	<b>1.68 (I)</b>	<b>3.92 (V)</b>	<b>3.79 (IV)</b>	<b>3.71 (III)</b>

Note: Where 1 denotes "highest rank" and 5 denotes "lowest rank"

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