

# RED BOOK FINAL REPORT

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Lead Paper: An empirical investigation of supplier  
development: reactive and strategic processes

Journal of Operations Management

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## **ABSTRACT**

This paper consists of a study on Supplier Development through various reactive and strategic processes in order to achieve sustainable competitive advantage, better efficiency and flexibility. These processes include transfer of knowledge, communication strategies, improving supplier buyer relationship, supplier integration to gain competitive advantage and management support. This paper describes different methodologies, practices and frameworks to achieve buyer supplier relationship improvement.

In a collaborative relationship, it is important to gauge the difference and similarities in perceptions of the all the stakeholders as some may believe they are receiving less than what they deserve. Thus, this paper also examines differences and similarities in perspectives of buyers and suppliers on the outcome of the collaborative relationship.

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## 1. Introduction

As the competition is growing, consumer demands are increasing and advanced technologies are emerging, companies are focusing more on gaining competitive advantage and keeping pace with the demands of consumers and technology. To fulfill this, companies have started outsourcing some or all of their components/processes to focus on their core competencies. With the increase in outsourcing comes the need of suppliers to be efficient and developed, thus the supplier development and relationship improvement plays a vital role to achieve sustainable competitive advantage. This will further lead to better organizational performance and thus profitability of both buyer and supplier.

Hahn et al (1990) defined supplier development as “any systematic organizational effort to create and maintain a network of competent suppliers”. Supplier development can be through reactive processes, strategic processes or a combination of both. Reactive processes involve improving supplier’s poor performance by providing the supplier with required resources whereas strategic processes involve improving capabilities of supplier base to gain long term competitive advantage. Strategic processes are said to enhance long term competitive advantage and to reap long-term benefits than reactive processes. These processes can involve transfer of knowledge, communication strategies, supplier integration, etc.

Collaborative relationship between suppliers and buyers should benefit both, thus it is important to know the perspective of both supplier and buyer on the outcome of its outcome. The study is organized as follows. In our literature review section, we will discuss about various reactive and strategic processes companies use to develop their supply base. We will also discuss how suppliers perceive their buyers and the involvement of different teams in developing the supplier base. After this discussion, we will conclude with some implications, limitations and suggestions for further research.

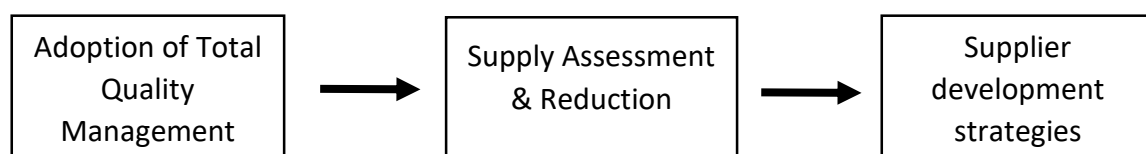
## 2. Lead Paper Review

The lead paper “An empirical investigation of supplier development: reactive and strategic processes” by Daniel R. Krause, Robert B. Handfield and Thomas V. Scannell postulates that to gain sustainable competitive advantage, buyers need to work on the development of their supply base and their performance. In this paper, the authors have developed a process model by performing an exploratory study based on data collected from 84 companies. To provide a more holistic view, the survey questions were both qualitative and quantitative. While qualitative questions required to be answered in-depth about company practices, quantitative questions on the other hand were majorly categorical questions. The first section of the survey asked about the methods used to identify and prioritize supplier development opportunities, second section consisted of open-ended questions to solicit about strategies used for supplier development and their results and the third section required them to answer on a five-point scale to determine the extent to which tools and practices for supplier development were used. The results of this study were then used to compare two processes that buying firms use in development of suppliers. These two processes are:

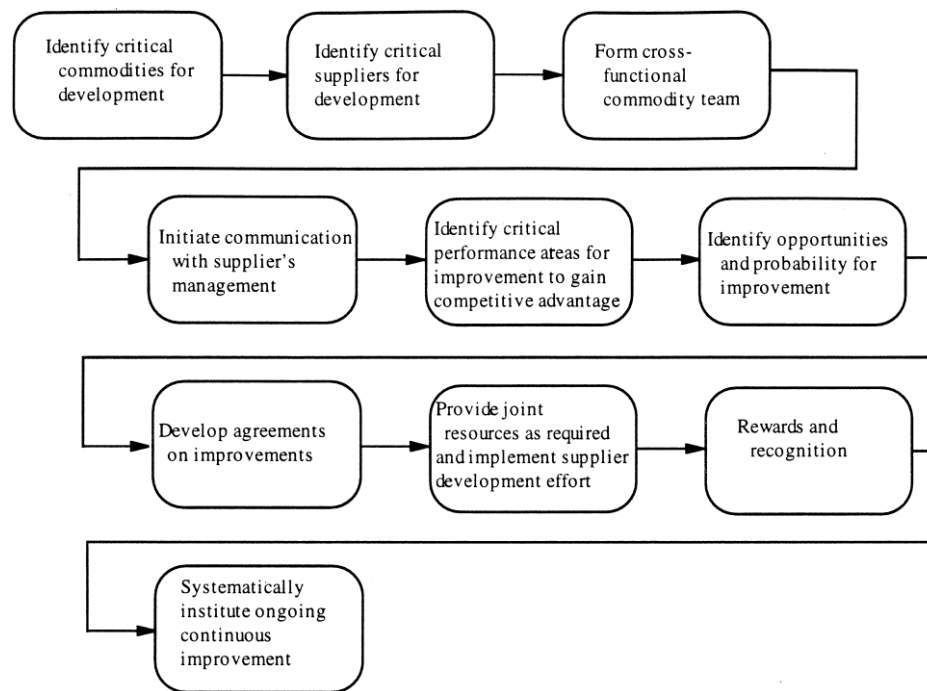
- 1) Reactive Processes
- 2) Strategic Processes

From then statistical analysis and from the information gathered from the qualitative open ended questions following results were reported in the paper:

**Result 1:** Companies generally follow an evolutionary path to supplier development which includes the following steps:



**Result 2:** Generic Supplier development model was prepared by analysing the qualitative responses of the survey:



This analysis included classification of companies as strategic or reactive (As per the research paper, strategic companies focussed on creating a world class supplier base to gain competitive advantage whereas the reactive companies focussed mainly on the non-performing supplier base), identification of critical commodities for development, communicating with supplier's management, rewards & recognition and identification of critical supplier of strategic commodities using the following matrix:

High Supply Risk	Bottleneck Commodities	Strategic Commodities
Low Supply Risk	Non-Critical Commodities	Leverage Commodities
	Low Volume/Low Dollar Purchase	High Volume/High Dollar Purchase

### 3. Literature Review

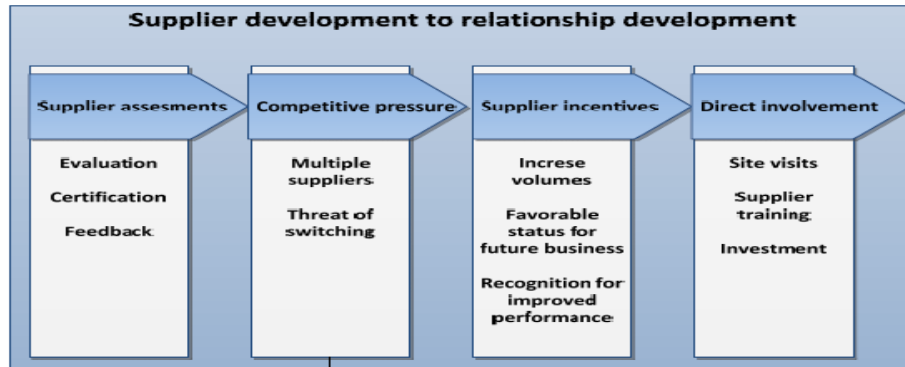
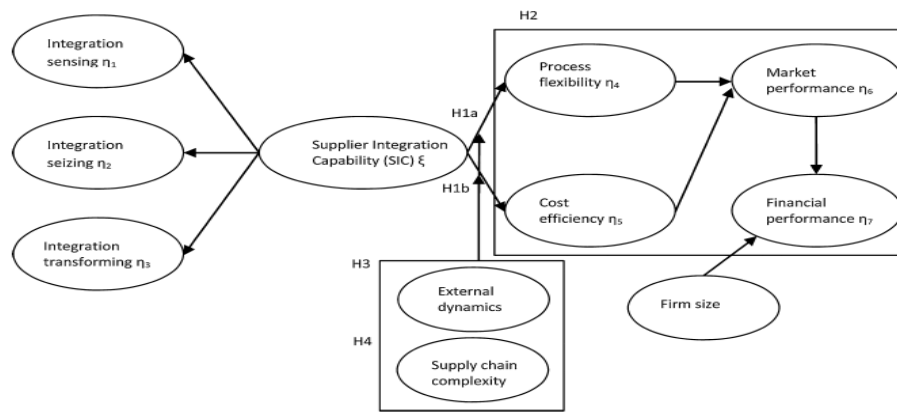
The literature regarding this topic is mainly concentrated around 3 things

- a. Supplier performance
- b. Buyer-Supplier relationship improvement
- c. Buyer competitive advantage

The methodology of this literature review has also been structured based on the above bullet points. This literature review will provide the details carried forth by various researchers in attaining supplier development, through both reactive and strategic process. The two main supply chain strategies that emerge out from the above strategic process are either those that focus on variability in supply chain or the ones that address the velocity of information. Supplier integration practices aimed at increasing speed focus on cost reduction, whereas the variability in supply chain focus on being more responsive and adapting to changing demands. Hence, the second aspect of supply chain serves the customers better and result in increased revenue.

#### **Supplier Performance**

Reference [1A] presents the research conducted by Evelyne Vanpoucke, Ann Vereecke, Martin Wetzels wherein it has been discussed how supplier interactive capability (SIC) enhances the flexibility and cost efficiency. To elucidate the concept, the core dynamic strategic process of developing a supplier is classified as sensing, seizing and transforming.



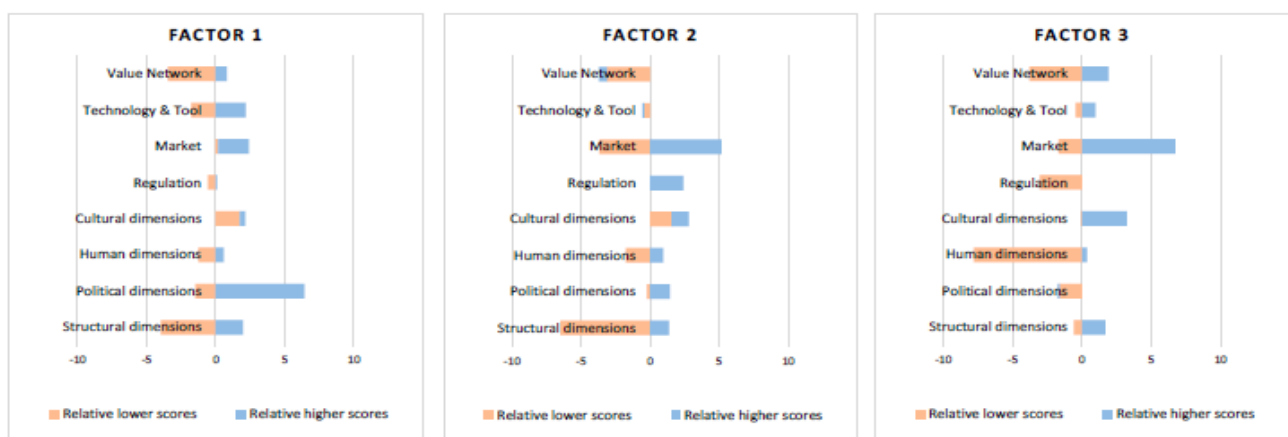
- i. Sensing includes gathering information, collating and allocating the resources. It etches the information which may highlight the opportunities and threats, current and future physical flows
- ii. Seizing includes making decision making protocols, build loyalty and collaborative planning to help the buyers to optimize the supply chain surplus
- iii. Transformational is the continuous alignment of operational practices, consolidate strategic knowledge to cope with long term changes

Research paper from Carol Prahinski, W.C. Benton [1B] identifies the communication strategies that can improve the supplier performance. The paper has identified various methods like formality, feedback, indirect influence, collaborations and power analysis. The paper concludes that though buying firms assess the supplier performance based on importance and commitment of supplier, they also want to consider the supplier's perspective on the buying



firm. The various parameters that can aid the supplier development program (SDP) through relationship development, problem solving, expressing commitment and loyalty. It should be formalized with routine communication, supplier training, education, site visits and improvement suggestion. Hence, enhancing supplier's perception on the business relationship and commitment to the buying firm.

The reference paper [1F] conducted by Rutger Peenstra, Gilbert Silvius deals with the limitations that were prominent in our lead paper. This study addresses the supplier's perspective on the buying firms and how the buyer supplier relationship is not only beneficial to the buying firm and customers but also the suppliers at large. Most of the organisations that outsource the realization of their project to a more specialised supplier. The end deliverables of the project is then decided by the organisations and this generally results in huge gaps and delayed projects. The paper argues on the importance of sustainable operationalization of the work. This paper has highlighted key enablers for suppliers that can result in better supplier development



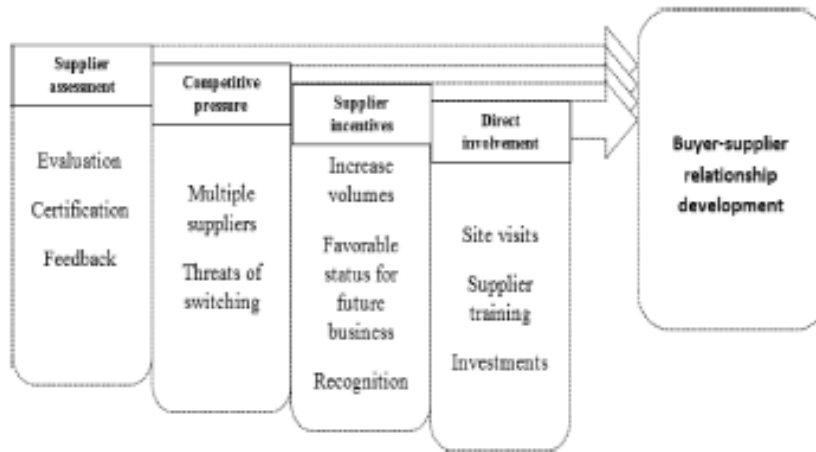
- a. Benefit driven: in this kind of scenario, the suppliers choose to go for sustainability in the in operations, provided they can weigh the benefits in terms of monetary value

- b. Demand and intrinsic motivation driven: in this scenario the suppliers are willing to integrate sustainability in the operation if this is asked by their client and the client is also ready to pay or share the cost burden
- c. Demand and Strategy driven: suppliers choose sustainability as the option if it fits in their overall strategy. They may choose to respond to the changes in demand proactively based on the decision made by their top management.

### **Buyer Supplier relationship improvement**

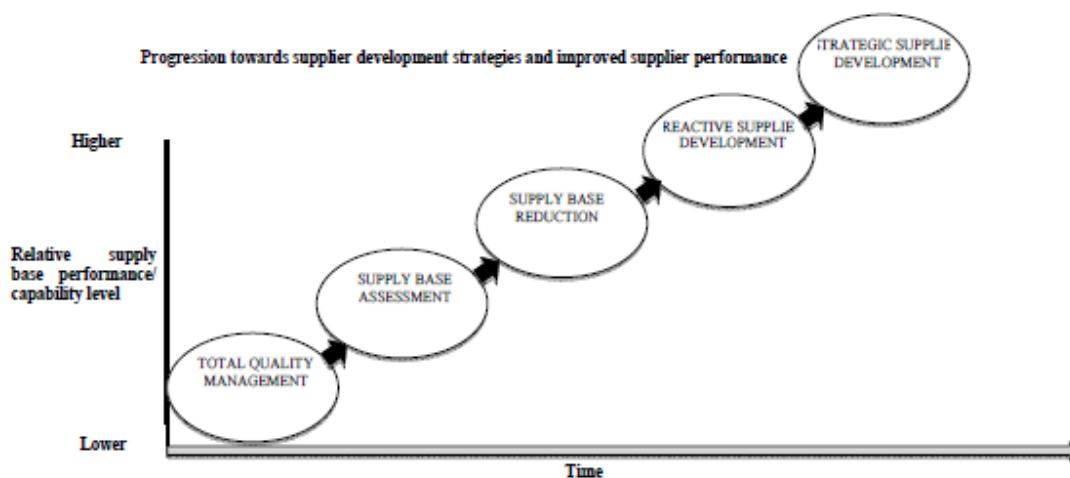
Given the dynamic business environment, every company needs to utilize its resources efficiently and effectively to their competitive advantage. The research paper [1C] focusses on enhancing the buyer supplier relationship, through supplier incentives, direct involvement and propositions that can enable strategic management decision making. Based on the survey analysis, the authors have narrowed down the factors affecting the buyer supplier relationships under the following 4 propositions:

- a. Proposition 1: the stronger the supplier assessment, the more successful is the supplier development program, with moderate effect on buyer-supplier relationship
- b. Proposition 2: Competitive pressure strategy, including a threat on switching the supplier, have a positive effect in favour of the buyer but negatively affects the buyer supplier relationships
- c. Continuous supplier incentives enhances the business performance of both the suppliers & buyers. The most frequent supplier incentive strategy results in stronger relations
- d. The higher direct involvement of the supplier, the higher chances of supplier development with a positive impact on buyer supplier relationships.



As per the study conducted by Ilkka Sillanpää, Khuram Shahzad, Elina Sillanpää, reference paper 1D, buyer supplier relationships are affected by certain factors like goal setting, performance measurement, supplier evaluation, supplier training etc. The paper discusses various aspects of supplier development and has identified several factors that assist the buying firms achieving that:

- Supplier's team leadership
- supplier's top management commitment
- capable joint-development team
- data driven changes
- success of a model line.



Based on the analysis conducted by the authors in the reference paper 1D, we can infer that there are certain practices followed by buying firms in supplier development program, which can be classified into reactive and strategic processes as follows:

	<i>Reactive</i>	<i>Strategic</i>
<i>Competitive pressure</i>		Direct Involvement
<i>Incentives</i>		Evaluation metrics
		Attitude of partnership

### Buyer competitive advantage

Reference paper 1D discusses how buying firms can leverage their competitive advantage for supplier development. The paper discusses some reactive approaches like incentives and raising switching cost for the suppliers and also some strategic processes like long term partnerships, monitoring KPI and in-house training and development to boost supplier effectiveness. Competitive advantage of buying firms includes market share gains, quality, cost reduction and quick product development. Manufacturing firms generally have 4 key competitive priorities in their end markets – cost, quality, delivery time and reliability. Organisations value the flexibility in their operations to meet the changing demands of their customers and, most often than not this flexibility is ensured by suppliers. Product oriented organisations are more dependent on encouragement drives and participation. Therefore, every company use multiple suppliers to keep a competitive pressure among different type of suppliers. This not only helps the suppliers achieve their own KPIs but also the buying firm can get the quality, reliability and delivery from the suppliers. Having a competitive pressure on suppliers will result in lower cost and motivation to keep competitiveness up.

In order to capitalize on the supplier efficiency, the reference paper [1E], written by Sachin B. Modi, Vincent A. Mabert, elaborates on how buying firms should transfer the necessary

business domain knowledge to their suppliers. The paper describes Operational Knowledge Transfer Activities (OKTA), which are the introspective measures taken in collaboration with the objective of enhancing supplier capabilities.

The reference paper [1G] authored by Joshi Sarang P, Shitole Pankaj, Chavan Rajendra, Joshi P P discuss in depth the areas where a buying firm can achieve competitive advantage with supplier development in focus. Some of the criteria which define the how a supplier can differentiate a firm in the market are as follows:

- a. Technology adaptation: the supplier is recommended to keep abreast of upcoming technologies and adapt to the changes. Some of the technologies like CAD-CAM, group technology, Computer Numerically Controlled (CNC) etc. are some of the novel technologies that can boost productivity of a supplier and a buying firm.
- b. Innovation: this affects the buying firm when it is undergoing a product re-launch or a design phase. The experience and the entrepreneurial culture of the supplier assists the buying firm in making key decision and thus impact profitability.
- c. Risk minimization: Buying firms here need to choose different management mechanisms for different suppliers based on the salient attributes of individual suppliers and their relationships with buyers. This calls for doing away with heavy reliance on a single large supplier.
- d. Operational excellence: Improvement in operations lead to cost reduction, quality improvement and faster product development. Here the suppliers need to augment their processes to effectively manage inventory, cost and delivery. Supplier Development Program (SDP) and Supply chain practices attribute the profitability through increased competitive advantage.

As the synopsis also highlighted the importance of top management in assessing supplier development, this research paper deals with how the suppliers can be realigned with the objective of the buying firm. There are specific controllable for the buying firm defined by the authors (Sachin B. Modi, Vincent A. Mabert) which when monitored and controlled result in

better buyer supplier relationships. Some of the factors are reactive in approach where it is imperative to assess the supplier performance on seasonal demand variations and the service level agreements (SLA)

The factors identified by the authors are as below:

- a. The percent of buyer requirement satisfied by the supplier: if a buyer procures larger percentage of their business requirement (mostly raw material) from single supplier then they are more geared towards holistic supplier development – a strategic move adopted by the top management. Such buying firms are also more likely to have better communication infrastructure and routine with such suppliers
- b. The percentage of supplier output bought by the buyer: if a buyer procures large number of end products (mainly finished goods) from a supplier, then the supplier is more aligned to the customer priorities, and in turn meets the expectations of the buying firm. Hence, this development also qualifies a strategic process.
- c. Type of material procured: In this case the buying firm may choose to go for reactive or strategic process based on the kind of product. The buying firms are more likely to end up with reactive processes, like incentives, penalty, trade discounts and volume discounts, for suppliers who are mostly MTS oriented. However, the firms dealing with MTO stocks have to be more sensitive to the customer expectations and therefore adopt the strategic process where they develop suppliers, right from their manufacturing to the delivery.

## 4. Conclusion

With this literature review, supplier development methodologies have been discussed with references from various research papers in the related field. Based on the research we conclude that reactive strategies are pre-dominantly short term and it is more profitable for a buying firm to have strategic approach towards supplier development. We found that supplier development impacts key performance metrics of a supply chain i.e. cost, quality, and cycle time. Supplier development is a key factor and positively effects on buyer's performance especially in product development integration, collaborative planning and information system integration. In supplier development program (SDP), where continuous assessment is an integral part of supply chain performance, information sharing is a vital factor determining the competitive advantage of a buyer and the effective supplier assortment. From the supplier's perspective, we have seen that suppliers are more likely to attribute the enablers of development more in the external organisations and categories like market, customer experience and demand generation. The internal enablers are more geared towards structural changes in the organisations, like roles, goals, policies etc. Based on the review presented so far, it can be postulated that when the buying firm uses collaborative communication for the supplier development programs, supplier perceives it as an effective mechanism. This literature review has also considered other facets of supplier development programs, bifurcating them into reactive and strategic approaches.

*Infrastructure factors of supplier development*      *Factors to improve supplier performance*

<i>Strategic Approach</i>	Increasing supplier performance goals
<i>Reactive Approach</i>	Supplier shop floor intermittent training
<i>Strategic Approach</i>	Equipment, technological support and investment: co-location of suppliers and conducting joint activities
<i>Reactive Approach</i>	Employee exchanging to mitigate pain points
<i>Strategic Approach</i>	Evaluation of supplier performance
<i>Strategic Approach</i>	Timely incentivising the suppliers

## 5. References

### **Lead Paper:**

- An empirical study investigation of supplier development: reactive and strategic processes;  
Authors: Daniel R. Krause, Robert B. Handfield, Thomas V. Scannell; Publication: Journal of Operations Management 17 (1998) 39–58

### **Other research papers:**

- “Strategies for Buyer Supplier Relationship Improvement: Scale Development and Validation”- Sarang P et al. [1G]
- “Examining supply chain relationships: Do buyer and supplier perspectives on collaborative relationships differ?”- Nayag et al.
- “Supplier development: Improving supplier performance through knowledge transfer”- Modi et al. [1E]
- “Enablers for Considering Sustainability in Projects; the Perspective of the Supplier”- Peenstra et al. [1F]
- “Supplier development and buyer-supplier relationship strategies-a literature review”- Silanpaa et al. [1D]
- “Developing supplier integration capabilities for sustainable competitive advantage: A dynamic capabilities approach”- Vanpoucke et al. [1A]
- “Benchmarking supplier development: An empirical case study of validating a framework to improve buyer-supplier relationship”- Shahzad et al. [1C]
- “Supplier evaluations: communication strategies to improve supplier performance”- Prahinski et al. [1B]
- “Building long-term orientation in buyer–supplier relationships: The moderating role of culture”- Cannon et al.