The Economic Effects of Supply Chain Management on the Automobile Industries in China

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ISSN 2229-5518

Publisher: IJSER Publishing

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Abstract

China's automobile industries had been competitively challenged in recent times. In order to remain competitive relevant in the automobile industries globally, China's automobile industries had to drive a strategic to channel its automobile production in the right perspective to remain competitive relevant. This led to the launched of a supply chain management by China's automobile industries. This paper considered the likely positive economic effects of the supply chain management on China's automobile industries. Firstly, the supply chain tends to open more markets for China's automotive industries in the ASEAN, EU, and AU regions. Secondly, the supply chain threatens China's automobile industries control over her local and regional markets from foreign automobile industries as China open their markets for international automobile industries in order to penetrate into foreign automobile markets. That is the supply chain poses a two-sided coin effect on Chain's automobile industries. Thirdly, the intention of the China's automobile industries to developed environmental friendly automobile vehicles (evergreen automobiles) just like their competitors to remain competitive. This paper employed a strategic methodology of comparing the present; China's automobile industries supply chain management and the intended supply chain management acceptable by the Western's automobile industries. The sampling of 200 participants of stakeholders that comprised of Western automobile dealers, Western automobile industries representatives, China's automobile industries representatives, China's automobile suppliers, EU representatives, and other participants indicated that the posed supply china management has positive economic effects on the China industries.

Keywords: China's automobile industries, Green Supply Chain Management (GSCM), Western's automobile industries, Western customers, China's automobile suppliers, supplier disciplined qualifications

1.1. Chapter One

Introduction

China's automobile industries had faced strife market competitive when China opens her market for a foreign automobile (Virendra. B. et al, 2016). This mechanism enables provided China's automobile industries the opportunity to sell their automobile mechanisms to foreign markets. In order to compete successfully, China' automobile industries have to come up with a competitive market strategy that will make them maintain local customers and attract new foreign customers (Ru-Jen Lin et al, 2011). This gave birth to the implementation and launched of a supply chain that will secure local customers and attract new international customers. Therefore, this paper considered some available supply mechanism available for China's automobile industries to adopt and investigate the effectiveness of the present supply chain mechanisms applied in these industries. The present adopted supply chain mechanisms include:

1. Traditional supply chain mechanisms (TSCM)
2. Green supply chain mechanisms (GSCM)
a. Green designs
b. Green procurement
c. Green production
d. Green marketing and transportation
e. Green recycles reproduction
3. Effects of China's automobile mechanisms on the environments

There are other supply chain management mechanisms that had not been tapped by China's automobile industries. These supply chain's management mechanisms include:

1. Established Efficient Supplier-Qualification Procedures
2. Orders endorsements and placements with only suppliers of quality products for numerous segments of production through effective synchronization for China's automobile industries
3. Easily supply chain management adjustment procedures to differences in the China supply chain business trends.
4. Continual evaluation of the best tested alternative supplier options

2. Chapter Two

Literature Reviews

This paper launched its literature review by comparing the present supply chain management adopted by China's automobile industries with the possessed supply chain management designed for China's automobile industries that will enhance more efficiencies than what is being presently adopted. This will enable the paper to pinpoint the economic effects of supply chain management on the automobile industries in China by comparing the present and intended supply chain management. The present supply chain management mechanisms include:

2.1. Traditional Supply Chain Mechanisms (TSCM)

The traditional supply chain mechanism (TSCM) is the normal adopted supply chain management, which comprises the interconnectivity and distribution flow charts among automobile manufacturers, suppliers, distributors, dealers and customers (Huang, P.S.et al, 2009). The normal tradition China's automobile industries utilize four supply chain mechanisms which commenced from the procurement procedures from suppliers to the manufacturing process, distribution and sales aspects (Zhu, Q.H. et al, 2005). Traditionally, there has been a collaborative relationship among these four players in China's automobile industries joined by trust, mutual responsibility, interactions, and risks and advantageous (Lockstrom. M. et al, 2010) and (Zaabi. S. et al, 2013). This had reflected in the cooperative traditional supply chain management mechanisms that existed in present China's automobile industries (Paulraj. A. et al, 2008).

2.2. Green Supply Chain Mechanisms (GSCM)

China' automobile industries adopted the green supply chain mechanism which this theory deals with the procurement, manufacturing, distribution, and sales of automobile mechanisms that are environmentally friendly (Virendra. B. et al, 2016). That is apart from the production of quality automobile mechanisms, great concerned should be given the ecology and the environment (Katiyar & Barua, 2013). The green supply chain mechanisms deal with the following aspects namely:

2.2.1. Green Designed Mechanisms (GDM)

China's automobile industries had joined other competitors globally in sourcing for green designed mechanisms from suppliers not minding the cost to boost her green designed automobile mechanisms (Hervani. A. et al, 2005). The green designed automobile mechanisms are the foundation for the adaptation of green automobile mechanisms production that led to other aspects of China's automobile industries (Cheng. W. et al, 2018).

2.2.2. Green Procurement Mechanisms (GPM)

The green procurement is one of the stages of supply chain management mechanisms that enable China's automobile industries mechanisms to source for environmentally friendly products from suppliers regardless the costs incurred (Ru-Jen Lin et al, 2011) and (Naude. M.J. and Badenhorst-Weiss. J.A 2011). That is China's automobile should not consider suppliers' products that are cost-effective, but suppliers' products that are considered to be green products which will enable China's automobile industries mechanisms to compete globally. Since other branded automobile industries across the globe utilized green procurement mechanisms, China's automobile industries mechanisms have had no choice than to do the same, not only to compete favor but to protect the environment generally.

2.2.3. Green Production Mechanisms (GPM)

The green production mechanism is another stage of China's automobile industries phrase where automobile mechanisms production is considered to be 100% green products. The primary reasons are to protect the environment while the secondary motives are to compete effectively with other competitors globally. According to Grandia (2016), the safety of our environment should be the driving force and the primary motive for every automobile industry globally.

2.2.4. Green Marketing and Transportation Mechanisms (GPM)

This green marketing and transportation mechanisms embraced the involvement of China's automobile industries in awareness campaign mechanisms in other aspects like marketing, transportation, and treatment of employees which will boost China's automobile industries image and reflect positively in sales volume as time progresses.

2.2.5. Green Recycles Reproduction Mechanisms (GRRM)

The China's automobile industries mechanisms will outsource other competitors when a breakthrough in reductions in CO2, greenhouse gas emissions or other environmental is discovered. These recycle mechanisms include recycled materials or products and attainable degree for energy efficiency improvements, in turn, to reduce greenhouse gas emissions and nature depletion and to switch to green energy (Cheng. W. et al, 2018).

2.3. The Effects of China's Automobile Industries Mechanisms on the Environments

The China automobile industries had performed favorably in these green aspects which this success had been traced to the supply intensive managerial skills. China's automobile industries had impacted positively on the environment over the years. That is China's automobile industries had produced automobile mechanisms that are less harmful to the environment. Green procurement policy is based on the purchasing power of the government or authorities' environmental concerns which are to be embedded in the procurement activities, so as to reduce the environmental damage and be resource efficient (Cheng. W. et al, 2018).

2.5. There are other supply chain management mechanisms that had not been tapped by China's automobile industries.

These supply chain's management mechanisms include:

1. Established Efficient Supplier-Qualification Procedures
2. Orders endorsements and placements with only suppliers of quality products for numerous segments of production through effective synchronization for China's automobile industries
3. Easily supply chain management adjustment procedures to differences in the Western supply chain business trends.
4. Continual evaluation of the best tested alternative supplier options

2.5.1. Established Efficient Supplier-Qualification Procedures

To establish efficient supplier-qualification procedures goes beyond examining samples of products, quality documentation, equipment standardization quality, and so on. Although there are effective procedures, there is other assessments methodology that does not fit into China's automobile industries mechanisms (Michael. C, 2018). For instance, China's automobile suppliers are aware that Western customers seek to ascertain other criteria such as visual indicators, control charts, work instructional processes, and many others. However, a great number of China's automobile suppliers do not understand the essentials of these mechanisms to produce effective and efficient operational management. Statistical data such as control charts are disciplinary procedures to control operational production outputs. These procedures are totally new to China' automobile suppliers and China's automobile industries. This process might take quite a long time to fit perfectly into the China supply management system because it is still in work-in-progress. Instead, efficient supplier-qualification needs are ascertained the supplier management stability qualities in order to boost confidence that the chosen China's automobile supplier will deliver present and future range of requirement related to both Western's automobile industries and China's automobile industries (McEvily,

B and Marcus, A., 2005). Such China's automobile suppliers' requirements include acquisition cost, logistics, and quality delivery. Mostly, the Western customers are strategic and continuous buyers that require a dependable and consistent China's automobile supplier who will become a long-term supply chain partner rather than selecting the lowest-priced product (Modi, S and Mabert, A., 2007). The Western customers will assess and evaluate China's automobile industries starting from their local supplier (China's automobile suppliers) to the final manufactures (Chinese automobile industries). Therefore, a Western's automobile supplier-qualification procedures ascertain the strengths and weakness abilities before patronizing China's automobile suppliers (Stefansson, G., 2002). The Western customers and Western's automobile industries concentrate on the ability of the China's automobile suppliers and China's automobile industries to deliver sustained automobile mechanisms, both cars, spare-parts and outsource pieces of machinery in fulfillment of communication performance. It is recommended that both China's automobile suppliers and China's automobile industries utilize complete supplier-qualification procedures that ascertain their abilities using these six functional disciplines measurements:

1. Manufacturing features and equipment procedures
2. Manufacturing management procedures
3. Quality systems
4. Technical support
5. Logistics and export abilities/skills
6. General management and financial strength

Finally, China's automobile suppliers and China's automobile industries should take nothing for granted when applying the supplier-qualification procedures and seek continual self-development using Western's automobile industries and Western customers' taste to improve on their standards. Other Western's improvement scales include feedback from customers in order to attain the right level of success in the automobile industries globally.

2.5.2. Orders endorsements and placements with only suppliers of quality products for numerous segments of production through effective synchronization for China's automobile industries

The second key of success to China's automobile industries and China's automobile industries for achieving successful supply chain management is the synchronizing, understanding and applying all the rules of engagement to the last letter from the outset. Form previous experiences, there had been mismatching expectations existing among Western customers, Western's automobile industries, China's automobile industries, and China's automobile suppliers. From previous experiences, the Western customers and Western automobile industries considered that they are taking a big risk interacting on managerial supply chain initiatives (Fayezi, S. et al, 2012). For instance, the Western automobile industries and the Western customers might send a purchase order to a China's automobile supplier which would produce positive results for commodity-like buys and not for other

products applying for purchase orders alone might be risky. That is strategic Western customers search for critical minded china's automobile supplier who fully understands the complete supply relationship (Khan, O. et al, 2012). The rule of engagement contract specifies products specifications, custom safety, assurance-quality requirements, intellectual property, non-compete provisions, terms and conditions of sale must be made by Western customers and Western automobile industries before any actual purchases prevent future unnecessary problems for Westerners (Arranz, N. and Arroyabe, J. 2011). In addition to this, there is a need for a disciplined supplier qualification and a complete legal supply contract that specifies a solid legal foundation that promotes transparency and mutual understanding among China's automobile suppliers, Western customers, and Western automobile industries.

2.5.3. Easily supply chain management adjustment procedures to differences in the Western supply chain business trends.

The third key of success to China's automobile industries and China's automobile industries for achieving successful supply chain management is the refining of their supply management procedures to suit in the West (Vickery, S. et al, 2003). These procedures will work effectively in the West due to their supply chain management styles. Taken the fact that, Western customers apply arm's length accountability procedures that promote supplier consistency and boost compliance requirement (Bunduchi. R, 2013). It enables China's automobile suppliers to utilize these requirements with less active intervention by the Western customers. It is certain that someday China's automobile suppliers and China' automobile industries will attain that level, but its supply chain mechanisms at the moment are still underdeveloped which posed a great risk for Western customers (Prahinksi, C. et al, 2004). The Westerners who might want to adopt the same methodology level in China might risk their franchises. For instance, a Western toy manufacturing company destroyed its company's reputation-perhaps by mismanaging the company's Chinese suppliers which were as a result of poor supplier quality-assurance procedures discipline. The China supplier began to utilize lead paints, which the West is considered to be substandard products. The company took responsibility and attributed this to the company supply chain mechanisms. Due to the unsophisticated of some of China's automobile suppliers, it is advisable for any Western's automobile industries sourcing there to conduct an effective routine mentoring and monitoring of China's automobile supplier performance. This paper introduced the first 7Rs for effective supply chain management associated with the monitoring of China's automobile suppliers which include:

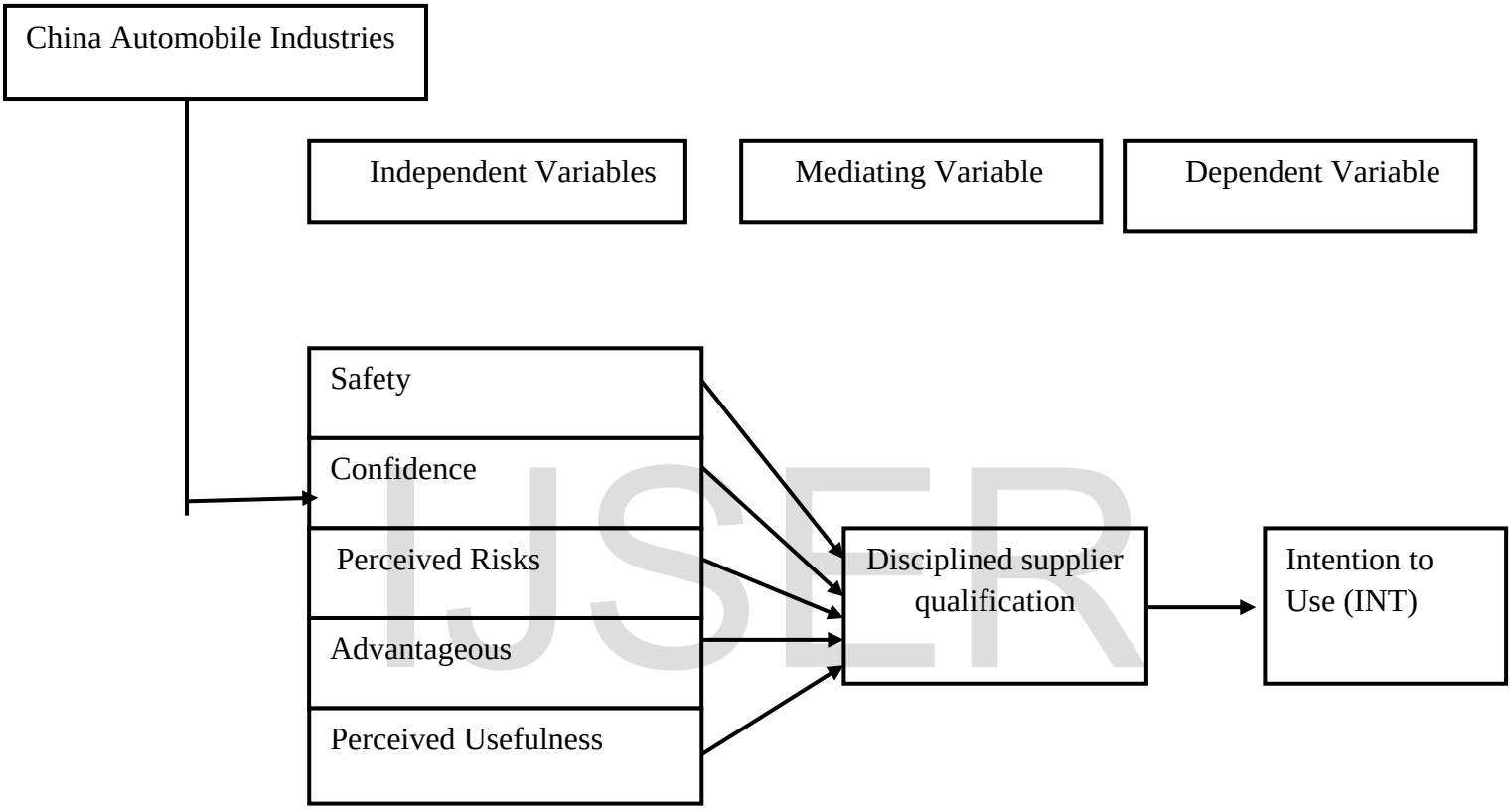
1. Routine supervision of China's automobile suppliers outsourced projects.
2. Routine meetings with China's automobile suppliers.
3. Routine monitoring of China's automobile suppliers.
4. Routine requalification audits of China's automobile suppliers performance.
5. Routine assessments of quality-assurance.
6. Routine checking of China's automobile suppliers outsourced projects.

7. Routine testing before acceptance of China's automobile suppliers outsourced projects.

2.5.4. Continual evaluation of the best tested alternative suppliers' options

The fourth key to success in China's automobile industries and China's automobile industries in achieving successful supply chain management is the continuous testing and adjusting to idle Western standardization procedures. What makes the Western suppliers be more professional than their China's counterpart is as a result of continuous general supply base improvement. The Western automobile industries are fond of maintaining a long business relationship with China's automobile suppliers without searching for alternative suppliers which is very common with Western automobile industries searching for China's automobile suppliers from China (Johnson, N. et al, 2013). That is Western automobile industries are in the habit of sticking with one china's automobile supplier for years without searching for alternative suppliers is a huge risk. To achieve the sustainable supply chain management improvement among China's automobile industries, China's automobile industries must examine the ever dynamic and changing business supply chain management in global environments (Scholten, K. et al, 2014). Also, the Western's automobile industries will continue to search China for China's automobile suppliers with improved total value and disciplined qualifications. Finally, China's automobile suppliers are younger with the intention to continue to seek improvement; it is advisable to stick to dynamic environmental trends in order to outsource their Western counterparts.

2.6 The Conceptual Model



3. 1. Chapter Three

Methodology

The planned methodology was close the research gap which indicated that none of the previous related reviews had drawn their searchlight on this topic. The methodology employed in this paper was based on a primary source of information obtained. To deliver a complete and accurate paper on the economic effects of supply chain management on the automobile industries in China, raw facts were obtained from participants at a conference held in Beijing China. The participants at the conference concluded that the posed supply chain management has some positive economic effects on China automobile industries. To achieve this, the paper by comparing the present supply chain management adopted by China's automobile industries with the possessed supply chain management designed for China's automobile industries that will enhance more efficiencies than what is being presently adopted.

3. 2. Previous research works

The author had embarked on the intensive gathering of facts from both primary and secondary information. The secondary information was gathered from related journals which based on their research on Green Supply Chain Management (GSCM), but none of the research of the previous author had ever deemed it fit to consider using the mentioned untapped supply chain management which includes:

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2. Orders endorsements and placements with only suppliers of quality products for numerous segments of production through effective synchronization for China's automobile industries
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4. Continual evaluation of the best tested alternative supplier options

3.3. Problem Identification

This paper based its problem identification on the research gaps detected when ascertaining the secondary data. The secondary data was made up using previous authors that had published journals related to the topic for this paper.

3. 3.1. Research Gaps Objectives

This paper pinpointed the research gaps by using a strategic comparative methodology of the present, China's automobile industries supply chain management and the intended supply chain management acceptable by the Western's automobile industries. From this comparison, the paper reviewed that research gaps were that the present Western supply chain management was not embraced by China's automobile suppliers and China's automobile industries.

3.3.2. Research Gap: This paper considered a rare topic which has never been reviewed to provide an in-depth theory was a huge gap

Thematically related gap: The research topic is very rare, unlike other papers; this paper considered a topic that is generating concerns among the Western automobile industries. This paper draws its attention to discover the effects of supply chain management on the automobile industries in China. The previous authors ignore China's automobile industries and even China's automobile suppliers due to the fact that they cannot match up with the Western's standardization supply chain management. The Western's automobiles pinpointed reasons which this paper had critically searched and analyzed to be the basic reasons.

3. 3.3. Research Gap: The research highlighted disciplined supplier qualification as a factor that determines the economic effects of supply chain management in the automobile industries in China.

Conceptual Gap: The conceptual model used to highlight a research gap that considered disciplined as the main conceptual gap instead of using Green Supply Chain Management (GSCM) which was commonly used by other previous authors. Although, there were other economic determinants disciplined supplier qualification was widely emphasized in this paper.

3. 3.4. Research Gap: The review of various case studies has exhibited that the information provided by previous researchers is insufficient that lack in-depth case studies.

Methodological Gap: The review of various case studies has exhibited that the information provided by previous researchers is insufficient to provide solid bases for more general theorizing that lack in-depth case studies. The posed supply chain management highlighted in this paper which included disciplined supplier qualification, 7Rs for effective

supply chain management associated with the monitoring of China's automobile suppliers, mismatching expectations and so on were clearly a research gap.

3.4. Hypotheses Development

The hypotheses based on this journal are related to the research gaps discovered. That is hypotheses used are prepared from the research gaps obtained.

3.4.1. Hypothesis 1 (H1): **Disciplined supplier qualification** significantly mediates the relationship between **safety** and **Western' intention** to patronize China's automobile industries/engage China's automobile suppliers.

Safety: The disciplined supplier qualification is the bedrock why Western's automobile industries will patronize China's automobile industries/China's automobile suppliers of safety, the automobile that is not considered safe for humans, but environmental friendliness and safety. That is disciplined supplier qualification mediated greatly the relationship between safety and Western' intention to patronized China's automobile industries/China's automobile suppliers (Cudjoe. et al, 2015). Therefore, disciplined supplier qualification plays a role influencing Western' intention to patronized China's automobile industries/China's automobile suppliers, which depends on the safety of their lives and the environment as well (Amit. S, 2016). For instance, Western customers may consider buying China's automobile mechanisms and employing the services of China's automobile suppliers if their products are of safety standards than their counterparts in the West which is a good result of China's improvement in their supply chain management. That is the safety of China's automobile mechanisms and spare-parts as well as suppliers' products are of high standards. Finally, this paper considered a supplier disciplined qualification as an interconnectivity relationship that mediates significantly between safety and Western's intention to buy/use China's automobile mechanisms and engage China's automobile suppliers services.

3.4.2. Hypothesis 2 (H2): **Discipline supplier qualification** significantly mediates the relationship between **confidence** and **Western' intention** to patronized China's automobile industries/engage China's automobile suppliers.

Confidence: The West lacks confidence in China's automobile industries/China's automobile suppliers over the years had impacted negatively on the supply chain management of China. This enables supplier discipline qualification to mediate greatly the relationship between confidence and the West' intention to patronized China's automobile industries/China's automobile suppliers (Shallone. K and Simon. M, 2013). For instance, the Western customer will patronize China's automobile industries/China's automobile suppliers if the level of Western confidence is boosted or accelerated based on continuous, efficient service delivery and not quick and cheap services that normally results to substandard production. That is discipline qualification is interconnected and related with Western's

confidence to patronize China's automobile industries/engage China's automobile suppliers' services (Deshmukh et al, 2014). There is a strong interconnectivity significant relationship between confidence and Western' intention to patronized China's automobile industries/engage China's automobile suppliers which discipline supplier qualification works as an effective mediating factor. Finally, the Westerns' confidence in the capacity of the Chinese to deliver an efficient and effective automobile related mechanisms can never be overstated.

3.4.3. Hypothesis 3 (H3): **Discipline supplier qualification** significantly mediates the relationship between **Perceived risks** and **Western' intention** to patronized China's automobile industries/engage China's automobile suppliers.

Perceived risks: The perceived risks perception of China's automobile industries/ China's automobile suppliers with the Western's customers is very high. Over the years, China's mechanisms, related to the automobile are considered cheap due to the utilization of substandard products. There is a need for the application of discipline supplier qualification to mediate between perceived risks and Western's intention to patronized China's automobile industries/engage China's automobile suppliers (Fergal et al. 2012). For instance, China's automobile industries had been complying with Green Supply Chain Management (GSCM) in order to boost their foreign competitiveness and to reduce risks associated with automobile mechanisms which are still not enough to consider as fewer risk automobile mechanisms. This paper proves the China's automobile industries/engages China's automobile suppliers to need to apply supplier discipline qualification, 7Rs for effective supply chain management and another stated measurement in order to march up Western's standards and minimize risks level. What is needed is the discipline supplier qualification that will mediate significantly the relationship between perceived risks and Westerns' intention to utilize and patronize China's automobile industries/engage China's automobile suppliers (Hiram Ting et al, 2016). Therefore, discipline supplier qualification will always be used to determine perceived risks and Westerns' intention to use. Finally, Westerns' intention to patronized China's automobile depends greatly on supplier qualification that mediates the relationship between perceived risks and intention to use.

3.4.4. Hypothesis 4 (H4): **Discipline supplier qualification** significantly mediates the relationship between **Advantageous** and **Western' intention** to patronized China's automobile industries/engage China's automobile suppliers.

Advantageous: The number advantageous about China's automobile industries/engage China's automobile suppliers is 100% related to cost-effectiveness. This is a global perception that delivers one of the cheapest automobile mechanisms. The supplier qualification will enable China's automobile industries/engage China's automobile suppliers to deliver automobile mechanisms that are not only cheaper than the Westerns' automobile

but of the highest standards. The discipline supplier qualification will determine significantly mediates the relationship between advantageous and Western' intention to apply China's automobile industries/engage China's automobile suppliers in Europe (Kähkönen, A, 2014). For instance, the China's automobile industries/engage China's automobile suppliers must employ all strategic information on this paper in order to improve on more advantageous skills which are interconnected and related with Western customers to use. That is China's automobile industries/engages China's automobile suppliers must go beyond being cost-effective, but standardization as well (Cudjoe. et al, 2015). The intention to utilize and advantageous are related and connected with is determined by supplier discipline. Finally, discipline supplier qualification significantly mediates the relationship between Advantageous and Western' intention to use that will boost their patronage European rating considered by this paper to be better than being cost-effective.

3.4.5. Hypothesis 5 (H5): **Discipline supplier qualification** significantly mediates the relationship between **Perceived usefulness** and **Western' intention** to patronized China's automobile industries/engage China's automobile suppliers.

Perceived usefulness: China's automobile industries/engages China's automobile suppliers must be considered as being useful in order to gain patronage by the West. For China's automobile industries/engage China's automobile suppliers to be considered to be useful to the West, it must meet certain Westerns' criteria or standards. This enables discipline supplier qualification to significantly mediate the relationship between perceived usefulness and Western' intention to patronize China's automobile industries/engage China's automobile suppliers' mechanisms services based on usefulness (Cudjoe. et al, 2015). For instance, as highlighted that advantageous, safety and confidence are essential to boost patronage of China's automobile industries/engage China's automobile suppliers' mechanisms by the West based on a discipline supplier qualification which is traced to Europe perceived usefulness. Therefore, perceived usefulness and Western' intention to patronized China's automobile industries/engage China's automobile suppliers are determinants of perceived usefulness of such automobile mechanisms or services (Fergal et al. 2012). Finally, discipline supplier qualification is a motivating variable that will always mediate the relationship and interconnectivity between perceived usefulness and Western' intention to patronize China's automobile industries/engage China's automobile suppliers mechanisms or services.

4. 1. Chapter Four

Research Process

4.2. Target Population

The primary data was collated base of the population that comprised of who is who in the China' automobile industries, China's automobile suppliers, Western's automobiles industries representatives, Western's automobile dealers, Western's automobile customers, EU officials, China's government officials, other invitees, members of the press, and AU government officials and other invited participants at five-days China's supply chain automobile seminar held in Beijing China. All participants at this conference were concerned about the economic effects of supply chain management of the automobile industries in China.

4.3. Secondary Information

The secondary documented sources of data collection were obtained for additional information. The study utilized information on published data (journals, online newspapers, radio interview citations, seminars publications and so on) and unpublished data traceable to the topic. The entire secondary documented data sources were duly acknowledged at the reference section of the research.

4.4. Interview Preparations

In preparation for the interviews with the China' automobile industries, China's automobile suppliers, Western's automobiles industries representatives, Western's automobile dealers, Western's automobile customers, EU officials, China's government officials and other invitees, it was decided to conduct semi-structured interviews with a mix of open questions that would allow the informant to comment and expand on the subject more freely and more specific questions that would require more precise answers. Some of the interviewees were called by phone before posting the questionnaires to their emails. These procedures are to prepare their mindset and to achieve accurate results.

4.5. Interview Questions

In preparation for the interviews with the seminar participants, interview questions were developed. It was decided to conduct semi-structured interviews with a mix of open questions that would allow the informant to comment and expand on the subject more freely and more

specific questions that would require more precise answers. The questions, somewhat compressed for conciseness, were as follows (Ulrik Franke, 2017):

5.1 Chapter Five

5.2. Discussion

In the following, the reliability and validity of the findings are first discussed, followed by some substantive implications of the results.

5.3. Validity

The reliability of the findings should be assessed as good. That is, there had been no risk of sampling distortion because the iterative measures were taken to verify the interview results (collecting informant comments on interview notes, at a seminar, and on the manuscript) and the high degree of unanimity and reliability among the informants about the economic effects of supply chain management on the automobile industries in China. The main threat to validity is inherent in the method chosen. The interview situation allows informants to answer in ways that–consciously or unconsciously – distort the facts (Ulrik Franke, 2017).

5.4. The Validity Test

Validity is the test on the accuracy of any result or outcome that was done on a population sample. Validity is conducting a check or test over again on a population or group of individuals with a view of ascertaining the authenticity of the outcome or results obtained (Lu'ay Mohammad Abdel-Rahman Wedyan, 2012).

5.5. The Reliability

The paper reliability was boosted because questionnaires were sent after calling the intended participants before the conference was held in Beijing China. This provided the avenue for the participants to prepare their mindset that gives dependable and reliable results

5.6. The Reliability Test

The reliability test was accurately done because the participants were sent their questionnaires by email which provided the opportunity for the participants to view their questionnaires submitted and to edit anything they felt was wrong before endorsement. This makes the paper’s reliability test 100% accurate.

Regression Analysis

Normality checking of the dependent variable

Hypothesis

H_0: Intention to use data are normally distributed

H_1: Intention to use data are not normally distributed

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Intention_to_Use	.305	200	.000	.779	200	.000

a. Lilliefors Significance Correction

As shown in the above table P-value of both tests (Kolmogorov-Smirnov& Shapiro-Wilk tests) of the dependent variable are less than 0.05. So it can be rejected H_0. Therefore, we can conclude that the data are not normally distributed at 0.05 levels of significance.

Correlation checking

H_0: There is no relationship between price and independent variables

H_1: There is a relationship between price and independent variables

Correlations

		Intention_to_Use	Safety	Confidence	Perceived_Risk	Advantageous	Perceived_Usefulness
Intention_to_Use	Pearson Correlation	1	.009	-.011	.068	.032	-.160*
	Sig. (2-tailed)		.894	.879	.341	.655	.024
	N	200	200	200	200	200	200

*. Correlation is significant at the 0.05 level (2-tailed).

As shown in the above table, only Perceived Usefulness variable significant P values is less than 0.05. So we can reject H_0 of only in Perceived Usefulness variable. Therefore, it can be concluded that there is a significant relationship between Intention to use and Perceived Usefulness.

Checking model significance

H_0: All the coefficient is equal to zero
H_1: Coefficient is not equal to zero

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.288	1	7.288	5.180	.024a
	Residual	278.587	198	1.407		
	Total	285.875	199			

a. Predictors: (Constant), Perceived Usefulness

b. Dependent Variable: Intention to Use

According to the above table, the P value for the model was 0.024. It is less than 0.05. So that null hypothesis is rejected and it can be concluded that at least one coefficient is not equal to zero at the 5% level of significance.
So that finally we can conclude that it can be fit a model for intention to use using these independent variables.

Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.382	.159		15.010	.000
	Perceived_Usefulness	-.142	.062	-.160	-2.276	.024

a. Dependent Variable: Intention to Use

As shown in the above table only constant term and perceived usefulness variable's P values are less 0.05. So we can reject H_0. Therefore, it can be concluded that the only perceived usefulness and constant term are significant at 5% levels of significance.

The model for intention to use is,

Intention to Use = 2.382 – 0.142*Perceived of Usefulness

R^2 Value

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.160[a]	.025	.021	1.186

a. Predictors: (Constant), Perceived_Usefulness

According to the above R square value, it is 0.025. Therefore identified model is 2.5% accurate for forecasting intention to use.

Assumptions Checking

- **The assumption of Normality of Residuals**

  Hypothesis

  H_0: Standardized residuals are normally distributed
  H_1: Standardized residuals are not normally distributed

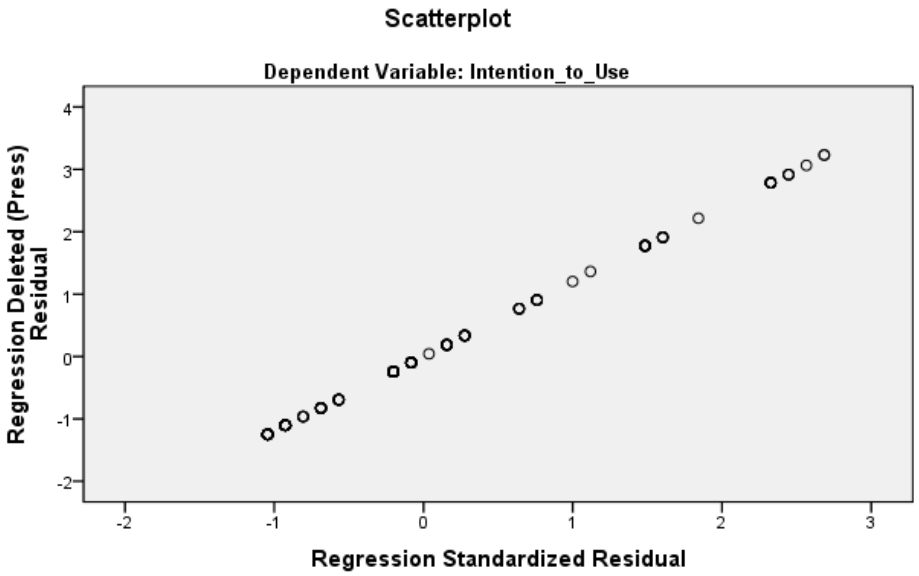
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Standardized Residual	.203	200	.000	.854	200	.000

a. Lilliefors Significance Correction

As illustrated in the above table both tests P values are less than 0.05. So that it can be rejected the null hypothesis. Therefore, it can be concluded that standardized residuals are not normally distributed. Then this assumption is violated.

- **The assumption of Mean zero and constant variance assumption**



As shown in the above graph, residuals are not randomly scattered and there is a pattern. So that the above assumption also violated.

- **Multicollinearity**

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.382	.159		15.010	.000		
	Perceived_Usefulness	-.142	.062	-.160	-2.276	.024	1.000	1.000

a. Dependent Variable: Intention to Use

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Safety	.015[a]	.208	.835	.015	.999	1.001	.999
	Confidence	-.006[a]	-.079	.937	-.006	.999	1.001	.999
	Perceived_Risk	.074[a]	1.060	.291	.075	.998	1.002	.998
	Advantageous	.032[a]	.460	.646	.033	1.000	1.000	1.000

Above tables illustrated the collinearity statistics according to the independent variables. The VIF value for all the independent factors is less than 5 and tolerance values are greater than 0.2. Therefore multicollinearity does not exist in the independent variables.

6.1 Chapter Six

Summary and Conclusion

Since China had opened its doors for foreign direct investments, the china's automobile industries had been under intensive pressure to improve on its supply chain management so as to match up with the global competitive standards. The competitive strength of China's automobile industries was tested not only based on their traditional supply chain mechanisms but was placed on a scale using internationally accepted supply chain mechanisms of the West. This paper considered using strategic methodological comparing of the traditional supply chain mechanisms of the Chain's automobile industries and the Western's acceptable supply chain mechanisms which proposed to be more preferable since China's automobile mechanisms will be exported and sold in Europe. This paper draws its primary data assessment from a seminar conducted using the international conference held in Beijing, China were 200 participants agreed that adopting Western supply mechanisms and the proposed supply mechanisms will definitely impact positively on the supply chain management of the automobile industries in China. The economic effects of supply chain management of the automobile industries in China was felt as a result which proved too true in this paper's investigation was. In conclusion, this paper called for further investigation into the supply chain management of the automobile industries in China.

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