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The Perspective of Value Creation of Agile Supply Chain (ASC) for the Customer with a Hybrid Approach

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ABSTRACT

The purpose of this research is to identify the factors affecting the agile supply chain and value creation for the customer in the automotive industry. Therefore, these factors have been identified using a qualitative approach and meta-combination technique. In this research, the technique is based on the model of Clarson (2006), Sampling strategy, data collection method, data analysis method, appropriateness of research design with research goal, clear expression of findings, proper justification of research result, and homogeneity between research project guiding paradigms with selected methods were the 7 steps used in selecting articles. Based on the analysis, 33 studies were reviewed and 22 codes were introduced for value creation for the customer, and 22 codes for the agile supply chain. In the supply chain stages, agility and the factors that affect it create value. Agility leads to rapid change management, in which case the organization can identify and meet the needs of customers with the necessary flexibility. The higher the agility of the supply chain, the better the factors affecting value creation for the customer. In light of the findings obtained from the study, it could be said that economics moves from the traditional to the modern knowledge, so managers must avoid looking at assets one-dimensionally and understand the importance of the role of intangible assets such as customers and the organization's internal value-added factors that contribute to the organization's survival and competitive advantage. In this article, it was shown that investing in agile supply chain factors creates a competitive advantage, i.e. customer retention and ultimately value creation for the customer.

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1. Introduction

Value creation models emphasize organizational processes to create customer value and as one of the effective aspects of responding to customer needs (Nojd et al, 2020). In fact, in the internal processes of organizations, employees and decisions of the organization should be viewed through the eyes of customers to align the processes with customer expectations. This is because value must be defined by the recipient, not just the provider. It is therefore necessary to design and implement "value creation" from the perspective of stakeholders, including customers (Asgari, 2013).

Customers can play a role beyond receiving products and services, they can participate in creating value with organizations and companies. Value creation for customers can affect customer satisfaction, the perceived value of the shopping experience, and customer evaluation of new services (Xu et al, 2018). Researchers have also examined whether value-creating behavior for the customer creates value for organizations and improves their performance (Cambra-Fierro et al, 2018).

Creating value for customers is a process that contributes to the sustainable growth of organizations (Tuan et al., 2019). Providing superior value to customers prepares companies to be able to gain a leading position in the market and among competitors. In this regard, one of the most important tasks of managers is to decide on those positional benefits that differentiate the company in the market (Danaei, 2019).

In this regard, two dimensions of value stability and continuity must be considered. In the dimension of value stability, attention is paid to the creation of values that help to enrich value creation and is considered as a kind of value investment. In the discussion of continuous value creation, it is considered that value creation is an endless process and must always be planned and revised. Because the concept of value from the customer's point of view is not a fixed and static concept and changes according to the requirements (Bozhani et al., 2018).

Many industries pay special attention to the supply chain strategy and its management, the existence of integration is considered a strategic capability that will create value for stakeholders in the chain (Iranzadeh and Sarainia, 2016). One of the most important achievements of streamlining processes and activities in the factory and throughout its supply chain is to achieve customer satisfaction by providing their desired value. Therefore, it is essential to focus on what is valued by customers in that industry before designing core processes and activities within the factory and within the organization's supply chain. Otherwise, a significant portion of the processes that take place in the supply chain may not be valued by the customer and, therefore, may be wasted (Feng et al., 2010).

Supply chain agility leads to integration throughout the chain and the coordination of material, information, and financial flows to meet customer demand and improve supply chain competitiveness. The supply chain network consists of different layers such as suppliers, manufacturers, distributors, and customers, in which, in addition to the physical flow (flow of goods and materials), financial and information flows also flow. Creating an agile alliance between supply chain members leads to a high-quality, low-cost product, or in other words, the creation of the highest value for customer satisfaction in a competitive environment (Yu and Tseng, 2014).

An agile supply chain requires complete commitment from all members of the value chain. Agility is the most important goal of supply chain management and will ultimately lead to a competitive advantage for organizations. The more supply chain features and activities contribute to chain agility, the greater the impact on supply chain success and value creation for customers. Items such as improving product performance at a lower cost, improving the appearance of the product, maintaining the quality level at a lower cost, identifying and eliminating the cost of unnecessary elements, applying technology and developing knowledge to create a new product, and

preventing excessive consumption of resources and mechanisms Customer retrieval can create value for customers (Maleki and Machado, 2013):

Organizations pay special attention to the supply chain and its management, among which, increasing supply chain agility is essential for the success of organizations (Chopra and Meindl, 2010). Many organizations suffer a lot of losses due to a lack of attention to supply chain management strategy, which is impossible to diagnose, but with a view to sustainable foresight and its impact on supply chain efficiency and agility, value creation can be achieved in the chain Supply. chain efficiency and agility are strategic resources and capabilities that can be used to create value (Kauppi and Longoni, 2016).

Various organizations are required to work with other elements of the supply chain to respond to market demand and meet customer needs. Thus, the performance of an organization is affected by the activities of other members of the supply chain. Also, today, competition between single companies has become a competition between supply chains, and companies have turned to supply chain management and improved agility to create value for their customers. In fact, in addition to focusing on their competitive advantages, companies should also pay attention to supply chain agility and value creation for customers (Sheikhi, 2011).

However, each of the three traditional stages in the supply chain - including procurement, production, and distribution - may be made up of different factors in different situations around the world. It can be inferred that different supply chain activities change from industry to industry (Niknejad, 2011).

In the current situation where the tastes and preferences of customers are changing and the markets of various industries, including the automotive industry, are gradually becoming more competitive; If at the end of the supply chain, that is, the customers make a change in the amount of demand or features required by customers, all members of the chain must change accordingly. However, it takes considerable time for such

a change to take effect at all levels of the chain; This change is due to a time lag from dealerships and distribution agents to automakers as well as to suppliers of parts and raw materials. The "leather whip effect phenomenon" also causes the intensity of the impact of this fluctuation in demand to gradually increase towards the beginning of the chain (Ulfat and Sheikhabadi, 2011).

This fluctuation may also occur on the part of suppliers and their supply of raw materials and parts. Imposition of international sanctions, special conditions, and industrial infrastructure of the country and the challenges and disruptions that followed these issues in the supply of parts and raw materials needed by the Iranian automotive industry (Dehghan, 1396). Makes clear the need to address supply chain management to create value for customers in the industry.

An agile supply chain is an integration of business partners to enable new companies to respond quickly and effectively to market changes resulting from customized products and services (Bottani, 2009). Basent and Leung (2005) state that an agile supply chain is a set of different companies that concentrates on flexibility and performance and can respond quickly to market changes and customer and market demand.

Supply chain agility is introduced by the ability of the entire supply chain to be flexible and adaptable to the rapidly changing needs of customers (Sharma and Bhat, 2014).

According to Eckstein et al. (2015) Supply chain agility is the sense of short-term and temporary changes in the supply chain and market environment (eg demand fluctuations, supply disruptions, etc.) as well as a rapid and flexible response to these changes with Existing supply chain (eg reducing material replacement time, regulating delivery capacity). Gligor (2016) considers supply chain agility as a capability for rapid adaptation tactics and operations within the supply chain.

The bottom line is that supply chain design for one industry may not necessarily work well for other industries. It may even be necessary to design multiple supply chains in an industry (Chopra and Sodhi, 2014).

Our country's automotive industry, which is on the verge of jumping to higher levels of automotive production knowledge, is in dire need of supply chain management and agility in it so that while surviving in a competitive market, it can also create value (Sarai Nia et al., 2017). On the other hand, in the global automotive industry, it is happening on a larger scale and faster than in the past.

This trend, along with issues such as globalization, rising customer expectations, and strict environmental and social laws governing industrial and economic activities, has increased the level of competition in the market for services and products of this industry. Customers are looking for goods and services that can meet their specific needs, and on the other hand, the world's major automakers, instead of making huge profits in the short term, seek to create value for customers and competitive advantage, with the goal of More survival in the markets, are (same).

Considering the challenges arising from the application of the traditional supply chain management model in the Iranian automotive industry and considering the functions and results that are emphasized today in international research studies in the field of "agile supply chain" and also in the form of findings from corporate experiences The world's progress in the automotive industry has been reported; The need to use a comprehensive model to model agile supply chain in this industry in Iran is identified.

However, domestically, the number of studies conducted on various aspects of increasing supply chain agility to create value for customers in the automotive industry is limited and is currently a comprehensive and indigenous model for achieving this goal in the Iranian automotive industry. Therefore, this research seeks to answer the question that what are the factors affecting the supply chain agility management model in the automotive industry, to chart how to create value for customers?

2. Methodology

In this article, the qualitative technique of hybridization and MAXQDA software have

been used. The statistical population in this research is all articles and research done in the field of research objectives.

3. Data analysis

This section is dedicated to the analysis of information and how to implement the meta-combination method. In this section, the operational steps of the hybrid are mentioned in the order and the obtained information is analyzed. To formulate a research question, the first step for researchers is to focus on what they are studying. In the present study, the main question is "What is the agile supply chain model to create value for the customer in the automotive industry?" It is considered that it is adjusted by considering the parameters listed in Table 1.

Table 1. Research question

Parameters	Set the question
What (study question)	What are the factors affecting the agile supply chain model in order to create value for the customer in the automotive industry?
Who (study community)	In this research, several different databases and search engines were examined.
When (time limit)	The articles studied in this research are from 1980 onwards because mainly the researches done in this category have been from the mentioned year onwards.
How (study preparation method)	In this research, the method of "documentary analysis", the analysis of data that are secondary, has been used.

3.1. Identifying and Retrieving Studies

In this study, two non-Iranian databases Scopus, Proquest and two Iranian databases Magiran and SID were searched in order to identify and compile different studies. found. The keywords searched in this research are as Table 2.

Table 2. Searched terms

Keywords	
Persian	English
Agile supply chain model	Agile supply chain model
Value creation for the customer	Value creation for the customer

It should be noted that the total number of articles found considering the input criteria is 31 studies (Persian and English) after reviewing all of them and considering the output criteria in terms of content criteria or lack of access, finally, the results extracted from Study 23 English studies and 8. Persian research was reviewed and analyzed.

3.2. Extraction of findings and evaluation of the quality of each study

Every study that is done must have acceptable validity, reliability, and objectivity; Qualitative studies and systematic reviews are no exception. In systematic review studies, a comprehensive search will lead to many related studies, but since not all of these studies are of sufficient quality, after reviewing the studies and extracting the results of each of them, each study should be combined with Appropriate tools are evaluated in terms of defined criteria and only those items that are of desirable quality are analyzed. In this research, a checklist has been used which includes different criteria for evaluating the high, low, and average quality of each of the initial studies. The purpose of grading each study is to increase the validity of the study with appropriate checklist tools and to exclude low-quality studies from the combination process. Table 3 provides an example of an evaluation checklist of 5 studies based on the model of Carlsen et al. (2007).

Table 3. Criterion Study

Row	Criterion Study	Study 1	Study 2	Study 3	Study 4	Study 5
1	Sampling strategy	x	x	x	x	?
2	Data collection method	x	x	x	x	x
3	data analysis	x	x	x	x	x
4	Proportion of research plan with research goal	x	x	x	x	x
5	expression of findings	x	?	x	x	x
6	Proper justification of the research result	x	x	x	x	?
7	Homogeneity between the research project guiding paradigms with selected methods	x	x	x	x	?
Quality grade (high / low / medium)		high	medium	low	high	medium
Considerations			need to be judged by the third browser	need to be judged by the third browser		need to be judged by the third browser

At this stage, the extracted resources were studied independently by at least two "browsers" and examined in terms of the criteria mentioned in Table 3, and if rejected, the relevant reason is also mentioned. In the event of a disagreement between the parties, the "third browser" will judge.

The "agreement" between the two browsers is determined using the Kappa test. The value of the kappa index, known as the Cohen kappa, fluctuates between zero and one. The closer the value of this measure is to number one, the more agreement there is between the rankers. But when the kappa value is closer to zero, then we see less agreement between the two rankers. In this study, the kappa index is 0.77, which indicates a high agreement between the two browsers. Finally, all articles "entered into the study" are checked and approved by an expert in the field. Resources are provided to "browsers" that cover the name of the author, institution, and journal.

3.3. Categorization of identified codes

Then, by comparing different concepts, we concluded that the concepts of agile supply chain and value creation for the customer are discussed in various studies, referring to an issue that after continuous comparisons and conceptualization at a higher level of abstraction. The label of factors affecting the agile supply chain model and value creation for the customer was assigned to it. This procedure was performed for all studies and finally, the key points taken from the researchers of each previous study were tabulated as follows.

The year in which the research was conducted and the researcher's purpose was stated. In the next two columns, the research method of the mentioned research and the country from which the research data was extracted or the research was done for that field are mentioned. The final two columns are related to the agile supply chain and value creation for the customer and the factors affecting it from the researcher's point of view, which express the same key codes extracted from the main concepts.

Table 4. Identify the factors affecting the agile supply chain and value creation for the customer

Row	Year / Author	Goal/Research Question	Factors Affecting Agile Supply Chain and Customer Value Creation
L1	(2020) Nojd et al.	Creating value based on digital technology: A hybrid approach to the value creation process for the customer in retail	<ul style="list-style-type: none"> • Communication management • Application of information technology • Innovation • Customer profile • Customer experience • Quick repair • Perceived ease of use • Psychological and emotional variables of customers • Innovation and creativity in the product • Adaptation to the environment (localization) • Acceptance in the community (social acceptance)
L2)2020(Sjodin et al.	Creating value and gaining value for customers in the business model	<ul style="list-style-type: none"> • Create value at the order stage • Creating value in the design phase • Create value in the shipping phase • Perceived risk at different stages • Staff training
L3	(2020) Yen et al.	Innovation and value creation for the customer	<ul style="list-style-type: none"> • Product and service innovation • Customer participation • Perceived enjoyable value • Marketing services • Experience innovation • List innovation • Innovation in information technology • Search for information by customers • Information sharing by customers • Responsible behavior of customers
L4	(2020) An & Han	The role of customer experience and participation in value creation for the customer	<ul style="list-style-type: none"> • Positive shopping experience • Motivation to buy customers • Emotional factors • Social exchanges • Perceived enjoyable value • Perceived social value • Functional value • Relationship marketing (word of mouth)
L5	(2019) Tuan et al	Customer value creation in B2B business in tourism	<ul style="list-style-type: none"> • social responsibility • Customer empowerment behavior • Marketing techniques • Ease of perceived performance • Staff training • Staff rotation • Customer demographic factors • Reporting to customers • Demographic factors of employees

Row	Year / Author	Goal/Research Question	Factors Affecting Agile Supply Chain and Customer Value Creation
L6	(2019) Opata	Customer willingness to participate in customer value creation: The moderating effect of social relationships	<ul style="list-style-type: none"> • Stakeholder social relations • Customer willingness • Customer satisfaction • Perceived usefulness • Demographic characteristics of customers • Perceived enjoyable value
L7	(2019) Frempong et al	Perceived value, online value creation and word of mouth marketing	<ul style="list-style-type: none"> • Customer knowledge • Customer ability • Customer willingness • New information technology • Word of mouth marketing • Reporting to customers • Perceived risk • Customer awareness
L8	(2019) Ranta et al.	Creating value for customers through stakeholder actions	<ul style="list-style-type: none"> • after sales services • Quality of product or service • Providing new services • Meeting customer needs • Optimization of competitive advantages (value creation for customers)
L9	(2017) Saunila et al.	Customer value creation features in digital services	<ul style="list-style-type: none"> • ease of use • Time Management • Satisfaction with use • Efficiency and adaptation to daily life • fast response • Awareness of customer demands • Understand customers correctly
L10	(2018) Ali et al.	Customer participation in value creation throughout the relationship life cycle	<ul style="list-style-type: none"> • Customer knowledge • Customer lifespan • Customer impact • Customer referral • Customer relationship management
P1	(2018) Danaei et al.	Provide a model for creating superior value proposition with emphasis on marketing strategy Unique company using Data Theory Foundation	<ul style="list-style-type: none"> • Perceived customer value • Corporate value proposition • Interactive value • Emotional value • Functional value • Exchange value • Value used
P2	(2018) Shaalia et al.	Investigate relationship marketing and customer value creation	<ul style="list-style-type: none"> • Marketing agents • Perceived value • fast response • Awareness of customer demands • Recognize expectations • Perceived quality
L11	(2019) Geyi et al.	Agility potentials to enhance a sustainable supply chain	<ul style="list-style-type: none"> • Market sensitivity • Empowering employees • Information integration • Process optimization • Collaboration network

Row	Year / Author	Goal/Research Question	Factors Affecting Agile Supply Chain and Customer Value Creation
			<ul style="list-style-type: none"> • Motivation to buy customers • Perceived enjoyable value
L12	(2019) Kawa & Maryniak	Agile supply chain and e-commerce	<ul style="list-style-type: none"> • Paternal flexibility of production • Relationship integration • Supply chain integration • Partnership with suppliers • customer relation management • Diversity management • Information sharing • Supplier innovation • Confidence and trust in delivery
L13	(2019) Shakerian et al	Investigating the effect of flexibility and agility in reducing supply chain disruption	<ul style="list-style-type: none"> • Product Indicators • Supplier indicators • Transportation indicators • Time management indicators
L14	(2018) Jajja et al.	The effect of supply chain risk on agility performance: The mediating role of supply chain integration	<ul style="list-style-type: none"> • Speed • Reliability • flexibility • Designing • Process planning
L15	(2017) Kim & Chai	The impact of supplier innovation, Share strategic information and resources on supply improvement Chain agility: A global supply chain perspective	<ul style="list-style-type: none"> • Supplier innovation • Information sharing • Strategic resources • Global perspective and approach
L16	(2016) Gligor	The role of supply chain agility in improving it	<ul style="list-style-type: none"> • size of the company • Industry type • System dynamics • Market complexity • Reporting to customers
L17	(2015) Brusset	Does supply chain transparency increase agility?	<ul style="list-style-type: none"> • Internal potential of the organization • The external potential of the organization • Internal processes of the organization • Organizational Innovation • Speed, cost and time (project management) • Correct sales and profit estimates • Information technology • size of the company • Organizational integration
L18	(2013) Vinodh	Designing an agile supply chain evaluation model and its case study in Hindi Auto parts production organization	<ul style="list-style-type: none"> • Marketing mix factors • knowledge management • Market • Marketing strategy • Responsibility • Skilled workforce • New technology • Information Technology • Customer relation management • Order management • Demand management • Respond to the customer • Dynamic logistics management • Partner Network • Supply and demand planning

Row	Year / Author	Goal/Research Question	Factors Affecting Agile Supply Chain and Customer Value Creation
			<ul style="list-style-type: none"> • Perceived competitive advantage • Reduction in costs • Transport system efficiency • Company website • Intelligent decision management • Market analysis • Marketing
L19	(2011) Tseng & Lin	Improve organizational agility by developing stakeholders, capabilities and suppliers	<ul style="list-style-type: none"> • Customer relationship management •Market • Equipment innovation •social factors •cost management •Time Management •performance evaluation • System reliability •responsiveness • Order management •responsibility • Information integration • Process integration
L20	(2008) Gunasekaran et al.	Responsive Supply Chain: A Competitive Strategy in a Network Economy	<ul style="list-style-type: none"> •Information Technology • Speed and flexibility •knowledge management •strategic planning •Organizational Structure
L21	(2007) Agarwal	Agile supply chain modeling	<ul style="list-style-type: none"> • Market sensitivity • Order management •responsiveness •customer relation management • Stakeholder cooperation • Focus on improving competitive advantage • Process integration • Information sharing • Transparency • Customer awareness
L22	(2006) Lin et al.	Supply Chain Agility Index	<ul style="list-style-type: none"> •cost management •Time Management • Perceived competitive advantage •performance evaluation • Performance reliability •flexibility •Competitive Advantage •responsibility • Equipment innovation • Satisfying customer demands • Information integration
L23	(1999) Yusuf et al.	Agile manufacturing	<ul style="list-style-type: none"> •Teamwork •Education • Welfare •Market •Quality •change management • Application of technology • Create a competitive advantage • Process integration • Customer awareness
P3	(2018) Bozhani et al.	Investigating the effect of supply chain integration on operational efficiency and value creation	<ul style="list-style-type: none"> • Create a competitive advantage • Process integration • Organizational resource management

Row	Year / Author	Goal/Research Question	Factors Affecting Agile Supply Chain and Customer Value Creation
		(Case study: Iran Khodro Company supply chain)	
P4	(2019) Sarainia et al.	"Development of a Model to Investigate the Impact of Sustainable Foresight on Strategic Integration of Supply Chain with Value Creation Approach (Case Study: Iran Khodro Supply Chain)"	<ul style="list-style-type: none"> • Customer integration • Internal integration • Integration of suppliers • Integration of suppliers • Integration of design and technology • Relationship integration
P5	(2019) Iranzadeh et al.	Presenting a Model for Evaluating the Strategic Integration of Supply Chain with Value Creation Approach Case Study: Iran Khodro Supply Chain	<ul style="list-style-type: none"> • Customer integration • Internal integration • Integration of suppliers • Integration of suppliers • Integration of design and technology • Relationship integration
P6	(2018) Dehghan Ravandi et al.	Agile value chain management modeling in the country's textile industry	<ul style="list-style-type: none"> • Enrich customers • Collaborate to compete • Mastering change Leverage skills • Reduce time and cost • Identify customer needs • Having the appropriate equipment • responsiveness • flexibility • Simplify organizational structure • knowledge management
P7	(2018) Aghaei et al.	NAJA Lean and Agile Supply Chain Pattern Design	<ul style="list-style-type: none"> • Management, • Strategic, • Customer Orientation, • Production and services, • Integrity • virtual organization
P8	(2008) Azar et al.	Designing a supply chain agility model; Modeling approach Interpretive-structural	<ul style="list-style-type: none"> • Reduce costs • Product quality • Customer satisfaction • New product development • flexibility • Market sensitivity • Process planning • Empowering employees • Information Technology • Delivery speed • Correct understanding of customers

Table 5 also shows the generated codes each category. along with the main categories assigned to

Identified concepts and codes	General category	Reference
Perceived risk	Value creation for the customer	L2, L8
Perceived value		L8, P5
Perceived ease of use		L1, L5, L13
Customer satisfaction		L7, L14, P8
Awareness of customer demands		L14, P5
Correct understanding of customers		L4, P8
Customer awareness		L8, L20, L22
Reporting to customers		L5, L8, L15
Perceived competitive advantage		L17, L21
Relationship marketing		L14, L18
Innovation		L1, L3, L10, L13, L16, L18, L21
responsiveness		L14, L18, L20, P5, P6
Mixed marketing factors		L3, L5, L17, P5
Corporate social responsibility		L5, L11, P3
Emotional factors		L1, L4
Customer motivation		L4, L6
Perceived pleasure		L3, L4, L6, L7
flexibility		L5, L10, L12, L19, L19, P5, P6
Customer relationship management		L18, L22
Time Management		L11, L14, L21
cost management	L16, L17, L18, L21, P6, P8	
Perceived speed	L12, L16, L19, P8	
Market sensitivity	Agile supply chain	L6, L20, P8
Empowering employees		L5, L6, P8
flexibility		L5, L10, L12, L19, L19, P5, P6
Integration of relationships		L6, L10, L16, L18, L20, L21, L22, P2, P3,
Supply chain integration		L6, L10, L16, L18, L20, L21, L22, P2, P3,
Partnership with suppliers		L3, L10
Gain customer confidence		L10, L12
Product quality		L9, P8
Process planning		L12, P8
size of the company		L15, L16, L17
Information Technology		L1, L3, L8, P6, P8
Innovation		L1, L3, L10, L13, L16, L18, L21
cost management		L16, L17, L18, L21, P6, P8
Time Management		L18, L21
performance evaluation		L18, L21
Marketing		P5, L17
Responding to customers		L14, L18, P6
Order management		L17, L18, L21
Demand management		L17, L21
knowledge management		L17, L19, P6
strategic planning	L13, L19	
Organizational Structure	L19, P6	

4. Conclusion

The purpose of this article is to identify the factors affecting the agile supply chain and value creation for the customer in the automotive industry. Therefore, using a qualitative approach and meta-combination technique, these factors have been identified. Based on the analysis, 31 studies were reviewed and 22 codes for value creation for the customer and 22 codes for the agile supply chain were introduced. According to the results tables of the meta-combination technique, these criteria have the most repetition and frequency in articles.

In the supply chain stages, agility and the factors that affect it create value. Agility has led to rapid change management, in which the organization can identify and meet customer needs with the necessary flexibility. The higher the agility of the supply chain, the better the factors affecting value creation for the customer (An and Han, 2020). As economics moves from the traditional to the knowledge economy, managers must avoid looking at assets one-dimensionally and understand the importance of the role of intangible assets such as customers and internal value-added factors that contribute to the survival and competitive advantage of the organization (Nojd et al., 2020). In this article, it was shown that investing in agile supply chain factors creates a competitive advantage, ie customer retention and ultimately value creation for the customer.

Qualitative research, with all its advantages, comes with weaknesses such as generalizability and validity. Therefore, to increase the generalizability of this research, researchers must evaluate the above model in other high-risk industries. Quantitative approaches such as the Delphi technique, structural equations, and interpretive structural model can also be used to evaluate the components and develop the generalizability of the model findings. Researchers are also advised to address the challenges of implementing the proposed framework.

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