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A Literature Review and Conceptual Framework on Corporate Strategic Foresight – What Value Created as a Source of Competitive Advantage in the Automotive Industry

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Abstract
Nowadays, the challenge in the automotive industry is more demanding due to the increase in dynamicity and complexity of environmental changes in the external business environment. Under the increasing uncertainty level, companies require a strategic approach to face these challenges. One of the essential techniques used to meet the environmental dynamic is corporate strategic foresight. Hence, it is essential to understand its value creation because the business environment is getting more uncertain and intense competition. However, the investigation of corporate strategic foresight value creation in the automotive industry is limited. This study aims to investigate corporate strategic foresight value creation and attempts to answer the research question of what value is created from corporate strategic foresight as a source of the firm's future competitive advantage in the automotive industry. This study employed a narrative literature review method based on the existing literature as a part of the qualitative study. The result showed a novelty in the conceptual framework of corporate foresight value creation in the automotive industry. It also provides insight into how organizational values are created to enhance the capability to gain competitive advantage, which contributes to practical especially to managerial and practitioners' automotive industry for a better understanding of corporate strategic foresight.

Keywords— automotive; competitive advantage; corporate strategic foresigh; environmental dynamic; value creation

Abstrak
Di industri otomotif, tantangan saat ini semakin berat karena perubahan lingkungan bisnis eksternal yang semakin dinamis dan komplek. Dalam lingkungan bisnis yang tingkat ketidakpastiannya semakin tinggi, maka perusahaan membutuhkan pendekatan strategis untuk menghadapi tantangan tersebut. Salah satu pendekatan untuk menghadapi lingkungan bisnis yang dinamis adalah dengan corporate strategic foresight. Karena lingkungan bisnis yang semakin tidak menentu dan kompetisi yang semakin ketat, maka sangat penting untuk bisa memahami nilai yang terbentuk dari kegiatan corporate strategic foresight tersebut. Namun, pada saat ini penelitian tentang nilai yang terbentuk dari kegiatan corporate strategic foresight di industri otomotif masih sangat terbatas. Maka dari itu, studi ini bertujuan untuk menyelidiki nilai yang terbentuk dari kegiatan corporate strategic foresight. Studi ini menjawab pertanyaan penelitian tentang nilai apa yang terbentuk dari kegiatan corporate strategic foresight sebagai sumber keunggulan kompetitif perusahaan masa depan di industri otomotif. Studi ini menggunakan metode tinjauan literatur naratif yang merupakan studi kualitatif yang berdasarkan pada literatur empiris yang sudah ada. Studi ini menghasilkan kebaruan pada kerangka konseptual tentang nilai yang terbentuk dari kegiatan corporate strategic foresight di industri otomotif. Hasil studi ini memberikan wawasan tentang nilai yang terbentuk dalam organisasi yang menguatkan kemampuan organisasi untuk mendapatkan keunggulan kompetitif perusahaan. Hasil studi ini berkontribusi pada manajerial dan praktisi khususnya di industri otomotif untuk pemahaman yang lebih baik tentang corporate strategic foresight.

Kata kunci— Otomotif; keunggulan kompetitif; corporate strategic foresight; dinamika lingkungan, nilai terbentuk

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I. INTRODUCTION

A. Background.

The entire automotive sector, including its upstream and downstream, largely contributes to the manufacturing industries. For example, in Indonesia, the supply chain contributes 10,16% of GDP growth and plays an essential role in stimulating national economic development. The contribution of this sector is expected to increase occasionally, in line with the growth of the automotive market, irrespective of certain unforeseen circumstances in the short term. Furthermore, Indonesia's car ownership ratio is still low. It has considerable development potential. In line with the market growth, the automotive sector tends to become highly competitive. Each car dealer is forced to employ the appropriate strategy. According to Kukartsev et al. (2019), based on the Ansoff Growth Matrix framework, the product development strategy is most suitable for companies related to technology, it is compelling and less risky than the other two strategies (market development and diversification strategies). Therefore, a product development strategy is used to develop a new product sold in the existing market.

According to Ruff (2014), the execution of the product development strategy exposes car manufacturers to major challenges. These include, first, the lengthy lead-time of a vehicle life cycle, and second related to the dynamic environmental changes. The lengthy lead-time of the vehicle life cycle is related to the period needed to develop a new product from the initial to the final readiness stages, as well as its lifetime in the market, as shown in Figure. 1. Ruff (2014), and Rohrbeck et al. (2013), reported that the lead time required for the development of a new vehicle varies. For instance, a passenger car requires five to seven years, while that of a commercial vehicle is relatively seven to ten years.

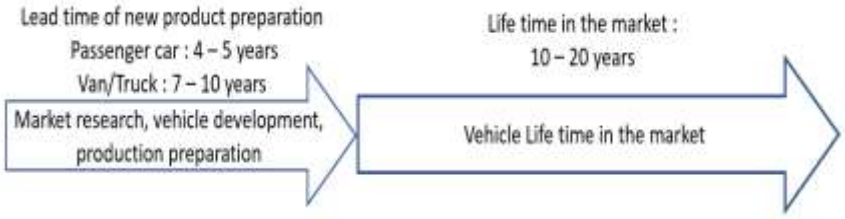

Figure. 1. Image of the total development lead time and vehicle lifetime.

The second challenge is the external environmental dynamics. Due to the lengthy lead time, car manufacturers need to carefully consider the macro and micro-environment changes that have a potential impact on the development of the new vehicle. These tend to strongly affect the attractiveness and structure of the industry in the long run (Rohrbeck, 2012; Ruff, 2014). Concerning the vehicle development issue, Ruff (2015), and Belay et al. (2014), stated that there is a need to adopt prompt strategy in the early stage. According to Ruff (2014), the generic problem in the automotive industry is the early detection of environmental dynamics that slowly influences long-term business scale. It was further reported that it is externally essential for developing new vehicles. The delivery of early input to the vehicle development centre aids the team in maximizing value creation in the early stage.

Adopting corporate strategic foresight in the early stage becomes the basis of the front-loading approach currently applied by most successful car manufacturers (Belay et al., 2014). This approach is employed to improve performance by shifting the identification procedure of problem-solving to product development processes, as shown in Figure. 2. product development without front-loading approach (upper picture) and product development with front-loading approach (lower picture). Belay et al. (2014) stated that front-loading approach attempts to maximize value creation, increase quality, and shorten lead time and costs of vehicle development processes. Most potential problems or issues are pull-forwarded and resolved by implementing this approach in the early stage of development. Furthermore, it is practically effective, especially when all related information and potential drivers of future change are reflected in the planning concept and design stage.

Corporate strategic foresight plays an important role in capturing the potential drivers of change. Iden et al. (2017), stated the need for prospective studies to apply this method to capture drivers of future changes. In line with the research carried out by Ruff (2006), a corporate strategic foresight unit delivers continuously updated information about external business environmental dynamics which adapts to the needs of the internal clients.

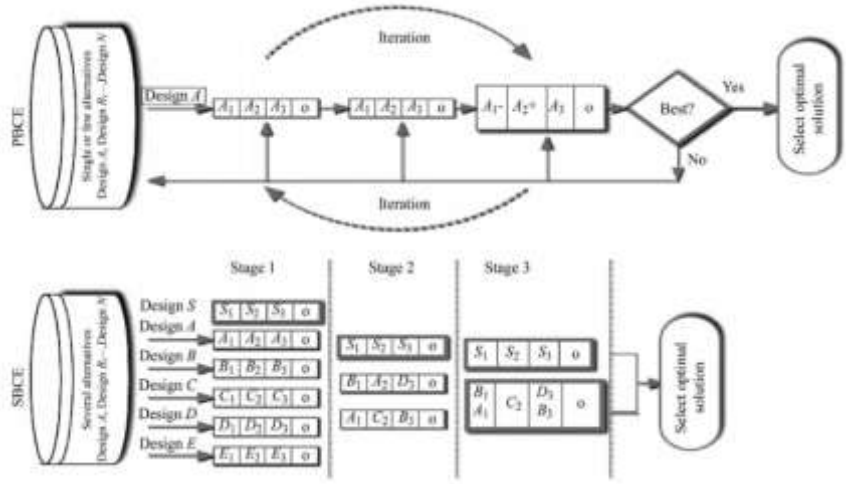

Figure. 2. Image of comparison: product development without and with front loading

B. Motivation and scope of the study.

Based on the existing technical research, it was discovered that corporate strategic foresight plays an essential role in terms of dealing with the external environmental dynamic to gain competitive advantage. On the other hand, there is still limited literatures of corporate strategic foresight in automotive industry especially related to value created due to the implementation of corporate strategic foresight in automotive industry. Therefore, this present study aims to discover the value created, especially in the automotive industry and provide insights by addressing the following research questions:

1. What is the impact of the current mapping interest on corporate strategic foresight?
2. What is its current position in respect to automotive industry?
3. What type of conceptual framework is suitable for this firm?

To answer these questions, a qualitative analysis in the form of a narrative literature review was conducted. This study approach was based on existing technical research related to corporate strategic foresight. Then, more emphasis was laid on the literature relevant to the research focus.

The result of conceptual framework is a novelty that will make immense contribution to the automotive sector by providing insight on how corporate strategic foresight value created influences organizational capability and provides competitive advantage. The mechanism includes the impact of this strategy on organizational learning, agility, and ambidexterity capability. This present analysis is responding the research carried out by, first, Rohrbeck and Schwarz (2013), although interest in corporate strategic foresight appears to be increasing, the implementation of corporate strategic foresight remains limited. This could be due to doubts about getting a return on investment, or, more precisely, uncertainty about the value creation of corporate foresight activities. Second, Vecchiato (2012), and Iden et al. (2017), stating that most scholars have failed to clearly define the value created by corporate strategic foresight and provide the empirical evidence of its contribution to sustain the firm.

For practical contribution, the outcomes are expected to help managerial, decision makers and practitioners to have a better understanding of value created from corporate strategic foresight especially in automotive industry. Furthermore, this tends to motivate the organization, to have a tremendous impact in the future.

C. Outline of the research.

We refer to Mashalah *et al.* (2022) and Chaldun *et al*. (2022) for the outline of this paper. It basically consists of five sections, namely introduction, review method, result, discussion, conclusion.

II. LITERATURE REVIEW.

This paper is basically a conceptual paper, therefore a qualitative analysis in the form of a narrative literature review based on the existing technical studies was conducted, in order to respond to the research objective and

questions. Referred to the research carried out by Green et al. (2006), there are three varieties of literature reviews. These include narrative, qualitative, and quantitative systematic literature reviews (meta-analyses). Each type has different methodology and purpose.

Narrative literature review.

A literature review or unsystematic narrative is described as comprehensive syntheses of previously published information. It reports the findings of the study in a condensed format that typically summarizes the contents of relevant topics. Our study applies this type of literature review method.

Qualitative systematic literature review.

A systematic literature review employs detailed, rigorous, and explicit methods. Therefore, an exhaustive search based on a focused question or purpose is the hallmark of this approach. Since the review is structured around a clinical question, it allows the development of criteria that determine whether a research publication should be included or excluded in the final synthesis. The step-by-step methodology used in the research is also described.

Quantitative systematic literature review.

This systematic review critically evaluates each research and statistically combines the results. It is also known as a meta-analysis, and this approach aims to make an objective science out of a research synthesis. Meta-analyses adopt all the rigorous methodologies of qualitative systematic literature review.

III. RESEARCH METHODOLOGY

Our study apply a narrative literature review method referring to article paper of Mashalah *et al.* (2022) which published in reputable journal 'Transportation Research Part A', and Mangiaracina et al. (2015), basically consist of three parts as in Table 1.

Table 1. Method of narrative literature review

Step	Name	Content
1	Article selection	Selection criteria and collection of articles.
2	Article review	Statistical review descriptive and general review descriptive.
3	Article analysis	Specific review related to the research topic and conceptualization.

A. Article selection.

This section discusses the step 1, namely: *article selection*. Liberati et al., (2009), stated that the process refers to the PRISMA 2009 Flow Diagram. The intended articles, were sourced for using the three keywords: corporate foresight, strategic foresight, and corporate strategic foresight in order to secure that all intended articles were included. We used term of corporate foresight because our research focussed on corporate level. Some authors used the term of corporate foresight, whilst others used strategic foresight or corporate strategic foresight. We excluded articles of strategic foresight concerning other area such as the government, NGO and others. The present study uses the term corporate strategic foresight, and the searching procedure was conducted in four reputable databases.

The four databases included are Scopus, ScienceDirect, Pro-Quest, and Google Scholar. Most of them are belonged to quartile 1 Scopus indexed (66%), and the rest 37% is quartile 2, therefore, they could be good quality article papers for our references. The publication year, as above 2010 was prioritized in order to obtain latest updated articles, and this amounted to 315 articles. The essence of the first filter was to exclude non relevant corporate foresight articles by deleting 181 of them and this led to the realization of 134 articles. This was followed by skim reading of the abstract and keywords, introduction, and conclusion, which amounted to 109 articles. Finally, screening for eligibility, the full text assessment was skim read, and this led to the realization of 44 articles that most relevant to the research interest.

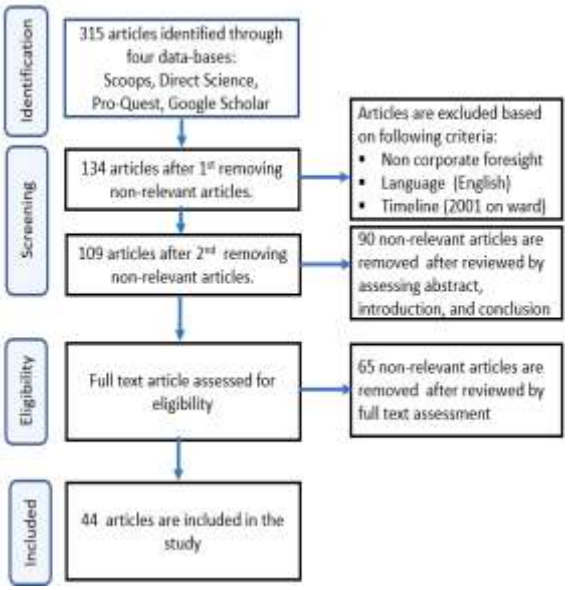

Figure. 3. The process of selecting articles refers to the Prisma 2009 Flow Diagram
(Source: Liberati et al., 2009)

IV. RESULT/FINDING

This section discusses step 2 – article review – which consist of statistical review descriptive and general review descriptive and step 3 – article analysis which consist of specific review related to the research topic and conceptualization. Therefore, this section will be structured as follows:

Table 2. Structure of section result.

Section		Sub-section	
		Sub-subsection A.1.	Statistical review descriptive
		Sub-subsection A.2.	General review descriptive
Sub-Section B	Article analysis	Specific review and conceptualization	

A.1. Statistical review descriptive.

A.1.1. Classification by year of publication.

As shown in Figure. 4., the number of publications related to corporate strategic foresight from 2010 to 2020, and in recent years tend to slightly increase. This trend indicates that there is a continuous academic interest in the field of corporate strategic foresight. This is in line with the business external environment getting more complex and dynamic thereby leading to higher uncertainty. In such situation, the organization is unable to rely on traditional approach as reported by some Rohrbeck (2012), and Ruff (2006). This industry requires a good tool or method such as corporate strategic foresight to tackle uncertainty in the business environment.

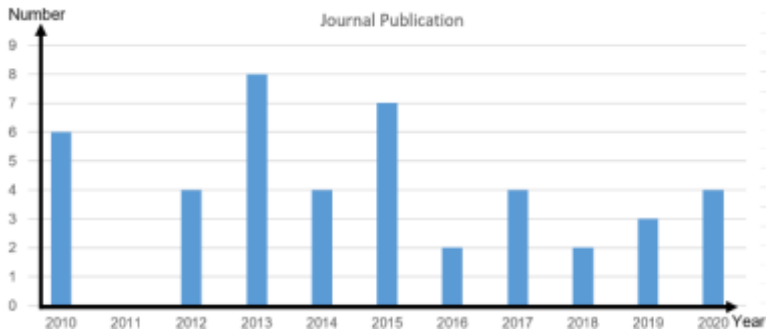

Figure. 4. Number of articles based on the year of publication

A.1.2. Classification by country of first author.

As shown in Figure. 5., the author's country of origin is mainly dominated by Europeans which cover relatively 77%. Based on a previous study, several European companies started implementing corporate strategic foresight, around 2000. A lot of successful ones applied the forward-looking technique using the earlier mentioned method.

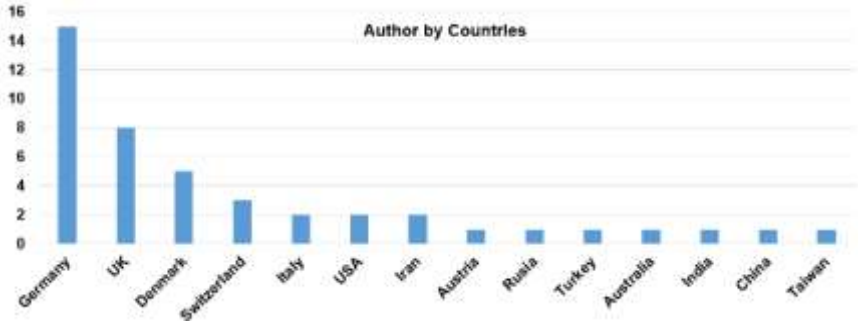

Figure. 5. Number of article based on country of first author

In other regions like Asia, the number of the firms that employed corporate strategic foresight are limited. Meanwhile, future research needs to investigate whether they are likely to use this approach to deal with external environmental factors.

A.1.3. Classification based on industry sector.

As shown in Figure 6., the number of research on corporate strategic foresight in the automotive sector is relatively higher compared to the other fields. It simply indicates that the uncertain trend associated with the external business environment in automotive industry is also getting higher. Ruff (2014), stated that the automotive industry requires a lengthy lead-time for the development of vehicles. This led to a certain level of uncertainty that made the external environment more complex and dynamic. Figure. 6. confirmed Ruff's research (2014), that the earlier mentioned statement leads to the need for corporate strategic foresight.

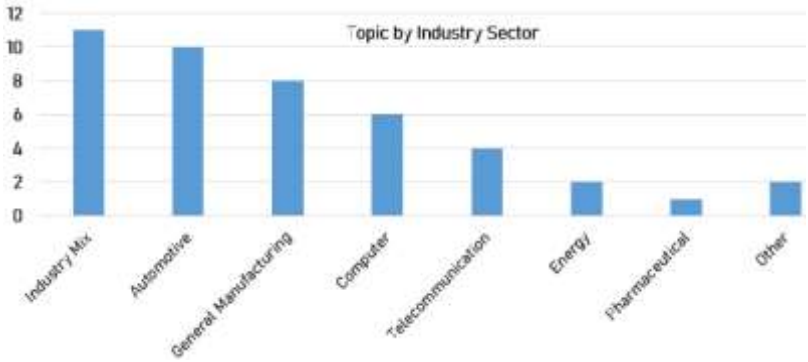

Figure. 6. Number of article based on industry sector

A.2. General review descriptive.

A.2.1. Corporate strategic foresight.

Thomas (2015), stated that corporate strategic foresight is the company's capability to detect the movement of the external environment, analyse and reflect on its action. Similarly, Battistella (2014), reported that this

method is used to correctly predict the future and as a result plan corporate actions. Schwarz et al. (2019), added that corporate strategic foresight is a lengthy analysis concerning external business environments, markets, new technologies and their implications for corporate operations. Rohrbeck et al. (2015), defined corporate strategic foresight as a practice that allows an organization to establish the groundwork for future competitive advantage. In addition, some literature reported that technologically, it is the procedure to promote the discussions of stakeholders, concerning future scenario orientation, with specific framework results.

Thomas (2015), reported that corporate strategic foresight consists of activities associated with the acquisition of external information. This serves as the potential to develop certain patterns in the future, besides the foresight direction depends on the company's vision or goal. Some research reported that this is dependent on two fundamental considerations. First, the presumptions for building corporate strategic foresight are, multiple futures exist (possible, plausible, probable), and its development is uncertain and unpredictable. Second, the potential change driver can be identified and studied, and then helps to form or shape the future. Rohrbeck et al. (2013), stated that practically, corporate strategic foresight can permit an organization to lay the foundation for a future competitive advantage through value creation.

The detail reviewed studies included in the present analysis is summarized in Appendix-1. Table state of the art of corporate strategic foresight which was classified based on industrial sector and research topic.

A.2.2. Corporate strategic foresight research in automotive industry.

Based on the research objective, therefore this section focusses to discuss corporate strategic foresight in automotive industry. According to Ruff (2006), several car manufacturers established non-technical groups as part of automotive research (e.g., Daimler-Benz, Toyota). It was argued that a company's long-term success did not only depend on the effective management of the core functions, such as procurement and supply, technical development, manufacturing, marketing, and sales. The establishment of a long-term development in the business environment, markets, and society, also known as corporate strategic foresight, was considered. Ruff (2006), stated that a hardly surpass-able complex process shaped the automotive industry. Historically, related research had tackle areas concerning product, and process innovations, technologically oriented processes, production analyses, and a social science-based foresight. Considering the vital role of foresight in this industry, the following selected articles were analysed to understand the essential insight as shown in Table 2.

Table 3. Summary of research topic in automotive industry.

No	Summary
1	*Ruff (2014). Germany. Research topic: approach.* Describe the foresight practice in an automotive company which (1) covers the full range of roles and practices of a mature foresight group, (2) describes case examples of how such roles and practices are played out in practice, and (3) concludes with general recommendations for organizational design and processes. This study highlights five significant foresight fields practice, namely early detection in new business environments, trend research for the generation of product innovations, prospective evaluation of innovation ideas, exploration and development of new business, and cross-functional dissemination of future-related issues.
2	*Thomas (2015). India. Research topic: approach.* This research attempts to understand the implications of foresight by analyzing the stated policies and firms' actions involving the six biggest automotive companies in the world. It explored the linkages between what firms perceive and state and what is reflected in their actions. It has looked at this linkage from the perspective of foresight and the firm's strategic perspective.
3	*Förster, (2015). Germany. Research topic: approach.* They utilized foresight to identify the technologies and processes, which might be relevant for sustainable production in the German automotive industry by conducting a Delphi survey with practitioners. The study result provides insight into potential drivers cost reduction, customer demands, and legal requirements, as well as hindrances to big investments.
4	*Winkler and Moser (2016). Russia. Research topic: approach* Develop a decision framework for the most relevant market dynamics affecting joint venture decisions in the Russian truck industry. This research applies several foresight tools, such as expert Delphi, scenario approach, and workshop. The results predict hard times for Russian OEMs as they will likely face intense foreign

No	Summary
	competition, leading to decreased sales volumes and market shares. The study ended with multiple scenarios addressing uncertain aspects of the industry's development and their likely impact on the key stakeholder groups
5	*Schweitzer et al. (2019). Germany. Research topic: adoption.* Outlined how a German car manufacturer explored customer needs in automated vehicles (AVs) by implementing corporate foresight research with visionary customers. The findings underline that AVs are a game-changer, transforming future cars into extended living and office spaces, with several implications for practitioners, and helped to adapt the organization's business model and strategy.
6.	*Akakpo et al. (2018). USA. Research topic: approach, adoption.* Describe the usage of foresight to integrate corporate organizational policy and strategic management. Tesla used the foresight method to analyze and evaluate corporate policy and management strategies for the future development of electric vehicles. Based on that, it developed long-term policies and strategies to meet future demands for electric vehicles in lithium batteries for electric cars in large quantities. Innovation, organizational policy, and process to support innovative contributions by diverse groups are core competencies of Tesla.
7.	*Ruff (2006). Germany. Research topic: outcome.* Describes role and scope of corporate strategic foresight (CSF) in creating value to enhance the capacity of innovativeness through three general roles. Strategist role: CSF enhances visioning, stipulates strategic guidance, combines opinions, evaluates, and repositions innovation portfolios, and classifying rival's new business models. Initiator role: It recognizes new customer equirements, technologies, and product ideas from competitors. Opponent role: CSF enhance basic assumptions stimulation, state-of-the-art current R&D projects, and examines disruptions.
8.	*Zimmermann et al. (2012). Germany. Research topic: approach.* Describe the method of foresight by developing a future vision of electric mobility in Germany within the year 2030 using innovative foresight methodology, integrated Delphi methodology and participatory back-casting to present the major factors leading to this desirable future. Four major steps of back-casting are strategic problem orientation, develop a future vision and influencing factors, back-casting analysis, and continuation.
9.	*Kuklinski et al. (2014). India. Research topic: approach.* Studied India's future automotive industry for small cars using a multistage of the Delphi technique and by applying scenario planning methodology. This study integrates the Delphi technique with qualitative and quantitative approach used to collect data on various expert opinions about possible futures and institutional interdependencies. The experts' and stakeholders' projections allow for an analysis of relevant developments along the PEST dimensions. It allows the automotive car industry to benefit from decreased uncertainty concerning how the industry might look, by integrating several consequences for customers, suppliers, competitors, government, and the social dimension.

Referring to Table 3., it was identified that the most popular research in automotive industry is focused on corporate foresight approach. Meanwhile, the topic on corporate foresight adoption and outcome (value creation) is relatively limited. Some potential opportunities contribute to these areas.

A.2.3. *Organizing corporate strategic foresight.*

To help practitioners have a better understanding of the corporate strategic foresight, Voros (2003) developed a Generic Foresight Process framework as illustrated in Figure 7. The thinking way and methodology, or tools used at each step, were also included. A Generic Foresight Process consists of four key elements, namely inputs, foresight work, outputs, and strategy. Refer to Figure 7., the typical questions (left side) trigger thinking way to understand the distinct contributions of each step and tools, or methods applied in each stage (right side).

The following paragraph describes each process in respect to Voros, (2003). *Input:* scanning and gathering of information for business intelligence. Some methods are often used, for example, the Delphi technique and environmental scanning. *Analysis,* a preliminary stage in-depth evaluation to obtain information on recent

happenings. The common tools are trend analysis, cross-impact matrices, and analytical techniques. *Interpretation:* to seek deeper analysis of the structure and insights. The common tools used are system dynamic and causal layered analysis. *Prospection:* views are used to examine alternative futures explicitly. Methods or prospective techniques commonly used are system map or causal loop diagram, scenario planning, and back-casting to clarify intents, and its execution. *Output:* there are two types of tangibles and intangibles. Tangible outputs include the actual result generated by the foresight work. Intangible outputs are related to the changes in thinking ways by the entire process. Some methodologies tend to present tangible outputs such as workshops, reports, role-play, film, multimedia, full-immersion experiential events. *Strategy*: the final part of this framework is an approach that results from foresight work becoming the input to strategy development and strategic planning processes.

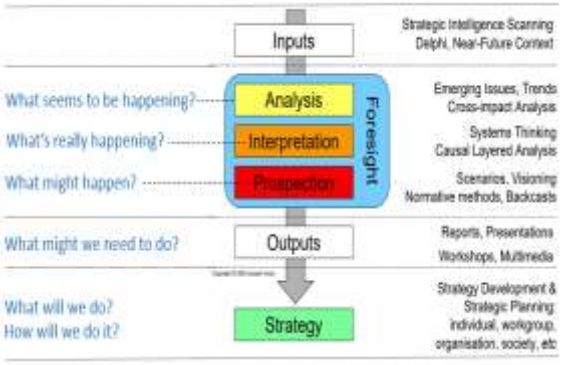

Figure. 7. A Generic Foresight Process Framework
(Source: (Voros, 2003))

A.2.4. Strategic foresight affects a firm's performance.

Rohrbeck et al. (2013), had empirically proven the hypothesis that corporate strategic foresight has a positive effect on a firm's performance. Furthermore, 77 European multinational companies were involved in the longitudinal research carried out from 2008 to 2015. The firms' performances were measured based on sales growth, as shown in Figureure 8. Top performer companies' interpretation of corporate strategic foresight was reflected in their strategic activities such as tactical, and innovative management as well as value contribution. In contrast, low performer companies had a lesser interpretation of this approach as well as its practical reflection. This proved that companies who properly implemented this approach, performed effectively and vice versa.

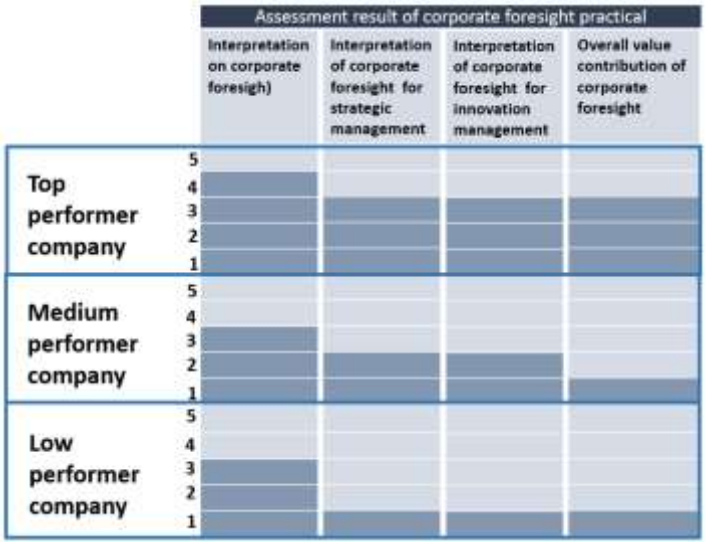

Figure. 8. Firm's performance and corporate strategic foresight assessment level
(Source : (Rohrbeck et al., 2013))

In line with the earlier discussion, Rohrbeck and Kum (2018), strengthened the theory that corporate strategic foresight has a positive effect on the firm's performance as shown in Figure 10. They also applied the longitudinal research carried out from 2008 to 2015 involving 85 multinational companies in Europe. Rohrbeck and Kum (2018), classified all companies involved into two groups in 2008. The first group comprises of firms who have a high maturity level of corporate foresight than needed. This group was referred to as future preparedness is good

The second group are companies who have a lesser maturity level of corporate foresight than is needed. They are referred to as future preparedness is not good. As shown in Figure 9, the group of companies that implemented good corporate strategic foresight in 2008 were mainly good and average performers in 2015, and vice versa. This simply proves that corporate strategic foresight has a positive effect on the firm's performance in the long run.

According to Ruff (2006), it is essential to implement a corporate strategic foresight relevant to the business context. Future research needs to integrate the company's organizational structure and process into its analyses. Moreover, through strategic foresight, these companies are able to view the trends, patterns, and social changes that trigger competitive advantage.

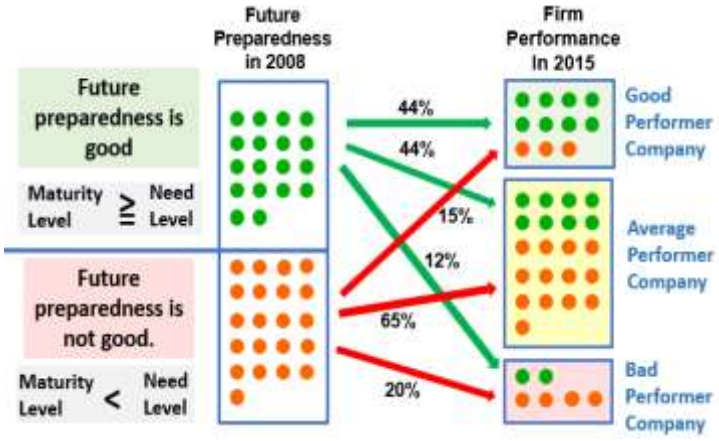

Figure. 9. Correlation of corporate strategic foresight & firm's performance
(Source: (Rohrbeck & Kum, 2018))

A.2.5. Theme arising from literature review.

This section referred to Iden et al. (2017), to classify corporate strategic foresight research topic into three categories, namely: adoption, approach, and outcome. *Adoption:* The research topic generally includes usage of foresight, motivation to adopt this method, and practical experiences. *Approach:* The research topic entails organizing foresight practices, methods, and tools used. These were used by some studies to conduct related analyses, such as the Delphi technique, scenario planning, back-casting, system dynamics, trend setting, etc. *Outcome:* The research topic discusses the effect of foresight activities on value creation, firm performance, and competitiveness.

Based on the classification of Iden et al. (2017), 44 articles including the present study is shown in Figure. 10. It was identified that the research topic of corporate strategic foresight approach is the most popular compared to the other research topics. However, this simply implies that most studies share the importance of corporate strategic foresight. As it is the initial relevant activity to trigger optimum benefit. An understanding of corporate strategic foresight approach is extremely important in order to obtain the real image of the corporate strategic foresight for optimum benefit.

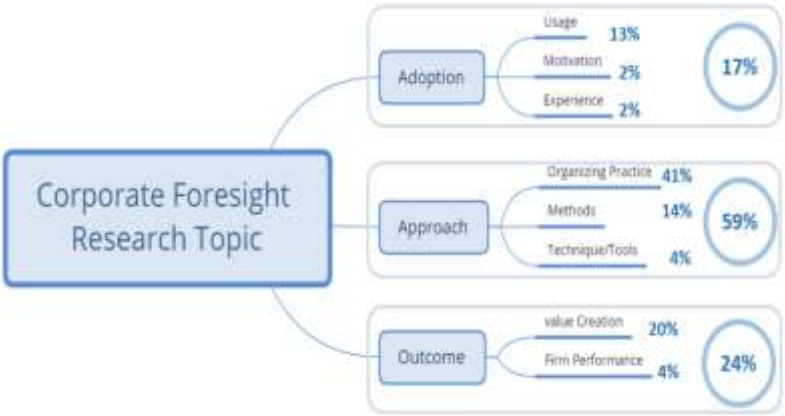

Figure. 10. Classification of research topic on corporate strategic foresight
(Source: (Iden et al., 2017))

In contrast, the research topic of corporate strategic foresight adoption was a bit less optimal. It is suggested that most companies are already highly motivated to adopt corporate strategic foresight. They realized that corporate strategic foresight is an important activity that enables the firm deal with the uncertain movement of the external environment. Furthermore, it was discovered that the research topic on corporate strategic foresight outcome (value creation) is slightly employed especially in the automotive industry (refer to Table 2.). In other words, scientific reference on this attribute needs to be enhanced. The motivation to understand the effect of corporate strategic foresight on the organization is still high since decision-makers or practitioners need to consider the benefits before practicing this method.

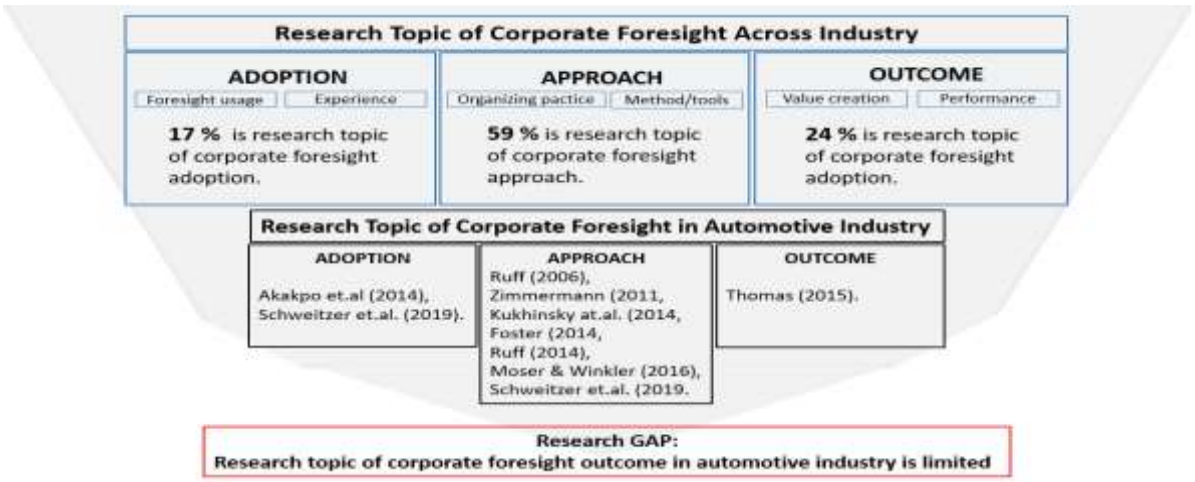

Figure. 11. Classification of research topic related to the corporate strategic foresight.

Figure. 11. shows the classification of research topic of corporate strategic foresight for across industry as well as automotive industry. It indicates that research topic of corporate strategic foresight outcome (value creation) especially in automotive industry is still limited. Therefore, this study focusses on investigating what value created from corporate strategic foresight as a source of the firm's future competitive advantage in automotive industry.

B. Specific review related to the research topic and conceptualization.

In Sub-section A.2.5., it was confirmed that there is a theoretical gap related to the research topic of corporate strategic foresight outcome (value creation), especially in automotive industry. This necessity is also confirmed by Rohrbeck and Schwarz (2013), although interest in corporate foresight appears to be increasing, the implementation of corporate foresight remains limited. This could be due to doubts about getting a return on investment, or, more precisely, uncertainty about the value creation of corporate foresight activities. Therefore, this section discusses this attribute from the corporate strategic foresight and conceptual framework perspectives. This literature review is enriched by analysing related studies in automotive industry.

Battistella (2014), reported that corporate foresight activity has a positive impact on collective learning and capacity building to address a particular issue. In line with that opinion, Ruff (2006) added that this unit can deliver continuously updated knowledge about future customers' and internal clients' needs. Heger and Rohrbeck (2012), further confirmed that implementing corporate strategic foresight in the company will improve the capability to capture future potential risks and opportunities concerning the possible change of micro, mezzo, and macro environment as visualized by the management. Rohrbeck et al. (2013), reported that a firm tend to expect certain valuable contribution from corporate strategic foresight adoption. This includes an enhanced perception and ability to interpret and respond to change, as well as the capacity to boost organizational learning thereby influencing others. An enhanced perception offers the highest contribution because it gains insights into external environmental changes and reduces uncertainty (Schwarz et al., 2019).

Rohrbeck et al. (2015), reported that the practice of corporate foresight lays the foundation for a future competitive advantage through value creation. Similarly, Ruff (2006) stated that interest in this approach is as a result of two key drivers. First, organizations want to understand the potential implications of new business models and emerging technological trajectories in order to prepare for uncertainties in the near future. Second, empirical evidence proved that corporate strategic foresight could lead to desirable organizational outcomes and value creation. These include the positive impact of enhancing organizational learning and innovation, strategic agility, and ambidexterity.

B.1. Corporate strategic foresight value creation.

Vecchiato (2015), reported that through collective processes such as socialization, articulation, combination, and internalization, team members continuously gain new knowledge, then update and revise the organization in preparation for the future. Regarding organizational behavior, Vecchiato (2015), suggested that the main role of corporate foresight is to allow the firm build memories of the futures, while experiential knowledge enables its development of the past. Iden et al. (2017), further stated that corporate foresight generates value through the following context an enhanced capacity to perceive change, interpret and respond to it, including organizational learning.

Proposition-1 (P1): Corporate strategic foresight positively influences organizational learning.

According to Arokodare and Asikhia (2020), corporate strategic foresight adds value by enabling a company to access crucial resources before any form of competition. It also prepares it for change, and to take proactive steps in the direction of the future. This method functions as one of the precursors of strategic agility, discovering, analysing and interpreting variables that trigger change, assess potential organizational consequences, and evoke the necessary reactions (Rohrbeck et al., 2015). Understanding and anticipating the future are the two basic components of corporate strategic foresight. It was predicated in respect to the tenets that the future is plausible. This is affected by change (drivers), which tends to be recognized and understood (Bereznoy, 2017). Vecchiato (2015), elaborated on the understanding of the relationships between corporate foresight and agility capability. This was realized by building organizational memories of the future. Corporate strategic foresight enhances the tactical sensitivity of managers, and their ability to recognize and interpret changes in the external environment.

Proposition-2 (P2): Corporate strategic foresight positively influences organizational agility.

Paliokaite and Pačesa (2015) stated that organizations can scan the environment to boost their ideas that drive innovation, although only a small fraction execute these ideas. Strategic selection capabilities help to identify new possibilities that align with the company's tactic. As a result, the more the organization scans the external environment and considers relevant prospects, the greater access it is exposed to fresh knowledge, which contributes to exploratory and exploitative breakthroughs (as it is ambidexterity fundamental). Previous studies on ambidexterity reported the need of external information acquisition for exploration (Paliokaite & Pačesa, 2015). In order to preserve competitiveness and be able to develop new potential technologies as well as develop it into business domains, innovative-driven firms needs to continually evaluate their environments (Thom & Rohrbeck, 2009). Rosenkopf and Nerkar (2001), reported that the empirical exploration beyond organizational limits had a greater impact than when executed within the bounds of the firm.

Proposition-3 (P3): Corporate strategic foresight positively influences organizational ambidexterity.

B.2. Organizational learning capability.

Organizational learning, in particular, is a process based on individuals realized through private and public firms engaged in creating and acquiring knowledge with the intention of institutionalizing it in order to adapt to the changing environmental (Castaneda & Rios, 2007). It was further elaborated that a learning process occurring through social interactions with diverse people, groups and firms is referred to as organizational learning. Intuiting, interpreting, integrating and institutionalizing are the four interacting activities that constitute this method (Castaneda & Rios, 2007). In addition, Crossan et al. (1999) identified four premises of organizational learning. Premise one: this method presupposes a conflict between knowledge exploitation and exploration. Premise two: Organizational learning is a multidimensional process. Premise three: its three levels are linked to psychological and social processes such as intuiting, interpreting, integrating, and institutionalizing (4I's). This occurs across the three ontological levels namely individual, group, and organization. Premise 4: Cognition impacts action, which in turn affects cognition.

Cetindamar et al. (2021), started that an organizational learning capability activates the adaptive environmental space. This is because its establishment may favorably affect employee motivation to transfer learning and generate a positive adaptable attitude to change. The organizational learning capability then triggers organizational performance, thereby providing more evidence to support the viewpoint of learning mechanisms, such as its, result in higher dynamic capacities (Zollo & Winter, 2002). This method causes a chain reaction that results in corporate growth capability, and influences on organizational agility. Teece (2016), described it as a dynamic competence in which learning is important in recognizing problematic routines and reacting to changing market conditions. Organizational agility refers to a company's capacity to detect and adapt to changes in its environment in order to gain long-term competitive advantages and survive in highly dynamic circumstances (Felipe et al., 2017). According to Cetindamar et al. (2021), organizational learning capability triggers the development of a positive adaptive attitude to change. This led to the accumulation of adaptability capacity, which eventually produces agility capability in the organizational level.

Proposition-4 (P4): Organizational learning capability has a positive effect on enhanced agility capability.

Organizational learning generates the required circumstances needed for strategy renewal, which balances continuity and change. According to Crossan et al. (1999), this process enables businesses to investigate and learn new approaches using relevant skills. In studies related to organizational learning, the concept of balancing exploration and exploitation is shown in distinctions drawn between the improvement of current technology and the development of a new one. Furthermore, exploring new options slows down the speed with which the old ones can be mastered. Advances in proficiency at existing techniques make experimenting with others less appealing (March, 1991). Balancing exploitation and exploration in organizational learning is influenced by the company's strategy as well as its physical and intangible resources. To confirm those balancing strategy, Lin et al. (2012) examined two attributes. First, the impact of organizational learning capability on `innovation ambidexterity. Second, innovation ambidexterity's effect on business performance. They employed Taiwan's 204 strategic business unit in their study. The empirical result proved that organizational learning has a positive effect on the innovation ambidexterity capability.

Proposition-5 (P5): Organizational learning capability has a positive effect on ambidexterity capability.

B.3. Agility capability.

According to Walter (2020), organizational agility is an accessible dynamic skill that can be quickly boosted to the required degree, and efficiently improve corporate performance in a challenging market context. Teece (2016), stated that organizations with strong dynamic skills may more readily and efficiently recognize the need for agility. Walter (2020), further stated that there are four components of agility, namely the drivers, enablers, capabilities, and agility dimensions. Agility drivers are environmental shifts that place firms in a new, vulnerable position as they seek competitive advantages. Agility enablers, are the methods, techniques, and practices used to achieve the requisite organizational capabilities with each dimension aided by the agility capabilities. Walter (2020) stated that existing literature discloses four general agility capabilities that serve as a foundation for various studies. The major capabilities are responsiveness, flexibility or adaptability, speed, and competence. These capabilities aid organizations to function effectively, generate high-quality and performance goods, deliver on time, innovate, and manage core competencies (Zhang & Sharifi, 2007). Teece (2016) and Walter (2020), indicated that organizational agility improves a firm's competitive advantage. It is also confirmed by El Nsour (2021), that organizational agility is essential potential and dynamic capabilities for achieving sustained competitive advantage

Proposition-6 (P6): Agility capability has a positive effect on the firm's competitive advantage.

B.4. Ambidexterity capability.

Based on the evidence of past studies, most successful organizations in a dynamic environment are ambidextrous – This aligns with the company's design in respect to present-day's business demands while also adaptive to changes in the environment for subsequent business exploration (Tushman, 2007). Some studies also confirmed that these firms must become ambidexterity to be successful in a dynamic environment. Amniattalab and Ansari (2016), stated that firms strive to master two types of capabilities: explorative innovation, i.e., creating new products and services often with the aid of recent technologies in a novel business field, and exploitative innovation, i.e., enhanced products and services within the current business field. These kinds of capabilities (combining exploration and exploitation) are called ambidexterity. However, by becoming ambidextrous, firms aim to gain competitive advantage. Using another term, Gibson (2004) reported that the organization's ambidexterity is perceived as contextual. Ambidextrous was further defined as an organizational behaviour to demonstrate alignment and adaptability simultaneously across an entire business unit. Alignment and adaptability refer to coherence, and the capacity to recon Figure activities, respectively. The concept of contextual ambidexterity differs markedly from the traditional scheme of its structure.

Gibson (2004), further stated that there are various paths for ambidexterity forms, which depends on industry and size. Some evidence shows that ambidextrous business units in the automotive company had gradually built adaptability skills asides from their traditional model of alignment. The ambidextrous business unit in the oil and gas company focused on adaptability, while the software firm deliberately created a blend of the two abilities.

Based on the empirical research, Amniattalab and Ansari (2016), stated that the firm can gain competitive advantage by owning corporate strategic foresight capability mediated by ambidexterity. It was added that the organization can enhance the exploitation and exploration innovation's ability by demonstrating corporate strategic foresight.

Proposition-7 (P7): Ambidexterity capability has a positive effect on the firm's competitiveness.

B.5. Competitive advantage.

Grant and Baden (2004), described competitive advantages as superior positioning over other organizations by creating strategic capabilities to overcome competitors in the industry. There are two strategies to achieve this: cost leadership and product value. Cost leadership manages resources through continuous improvement compared to competitors with a minor loss. This is in addition to providing equal benefits to competitors' use, with focus on reducing costs rather than increasing sales prices. Creating product value and differentiating is a strategy that promotes resource investment to meet customers' needs. Grupe and Rose (2010), further stated that competitive advantage is an organization's ability to stay ahead of present competition. Similarly, Pickering and Hill (2007), reported that it is the superiority over other organizations by adopting different capabilities. Superior performance is in the form of market leadership, such as the firm's ability to improve the quality of its products, reduce the cost, or enlarge the market share of profit.

Concerning resources required, Pickering and Hill (2007), stated that strategic resources are utilized to boost competitive advantage, namely: VRIN. *Value* – the ability to exploit any opportunity to neutralize the competition with an internal capability. *Rarity* – the ability to own the capacity or resources that are extremely hard to find in others. *Imitable* – the ability to have the capacity or resources difficult to find an equivalent. *Non-substitutable* – the ability to own the capability or resources that is irreplaceable.

B.6. Conceptual Framework.

The theoretical proposition *P1 ~ P7* described in previous sub-sections (a ~ e), led to the creation of a conceptual framework of corporate strategic foresight value creation shown in Figure 12.

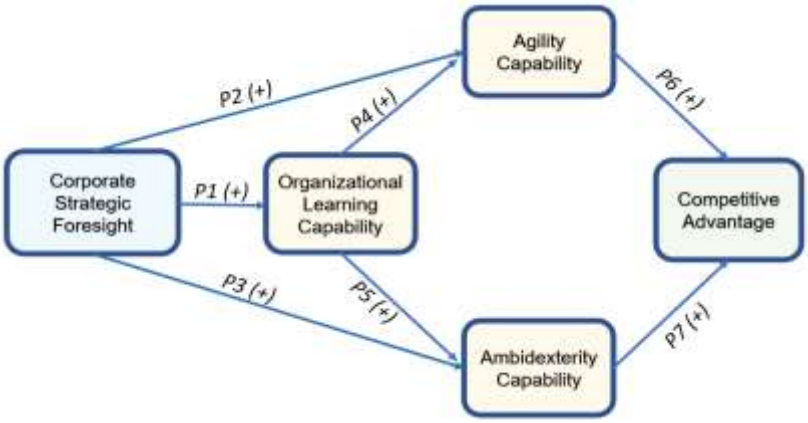

Figure. 12. Conceptual framework of corporate strategic foresight value creation.

In summary, corporate strategic foresight potentially creates some value by enhancing organizational capability such as organizational learning, agility, and ambidexterity. Organizational learning plays a role to mediate corporate strategic foresight value creation to also enhance agility and ambidexterity capability. Through value created of the agility and ambidexterity capability enhancement, it leads to the achievement of the firm's competitive advantage.

V. DISCUSSION

To answer the research questions, a methodology that specifically focuses on the use of narrative literature review was employed. The studies reviewed included those that generally discuss corporate strategic foresight, and further deepening in automotive industry.

Research question no.1: what is the impact of the current mapping interest on corporate strategic foresight? This was answered in accordance with the following summaries. The research topic on corporate strategic foresight was generally described in section 3. Iden et al. (2017), referenced this topic by classifying corporate strategic foresight studies. Basically, the research topic was classified into three categories, namely: adoption (this includes its usage of foresight, motivation to adopt this practice, and experience), approach (the method encompasses how to organize, the methods, tools or techniques used), and outcome (the outcome of corporate strategic foresight includes the effect of the firm's performance or value creation on organization). The approach topic is the most popular compared to the others, with more than 59% applicable to this area. This indicates that most research want to share the key insight of how to conduct corporate strategic foresight in the organization. Furthermore, the topic discusses ways to organize strategic foresight, the type of method, tools or techniques that is most suitable for the organization. As earlier described, many European companies started to implement strategic foresight from year 2000 onwards, therefore most articles discuss about its approach. It is an excepted form of guidance for organization to obtain optimum benefit. The outcome and adoption topics have similar popularity, of approximately 24%, and 17%, respectively. The adoption topic focuses on the strategic foresight process, its usage, and motivation. Its trend is a bit less, and people have realized that corporate strategic foresight plays an important role in the firm, such as dealing with the uncertain external environmental movements. In other word, the motivation to adopt this method is high enough already. The outcome topic was also low, relatively 24%. This is a bit higher than the adoption topic, and it was suggested that, even though the practitioners are motivated, but the understanding its implementation and benefits still needs to be improved.

Research question no.2: what is its current position in respect to the automotive industry? The corporate strategic foresight in automotive industry generally has a similar trend. Based on the summary shown in Table 2, it was realized that the most popular topic in automotive industry is approach, while adoption and outcome are limited. The reason behind this is generally similar as earlier described in the previous paragraph. There is a need to share the key insight of how to conduct corporate strategic foresight in the organization in order to obtain optimum benefit. However, there is a chance to make more contributions since research topic of corporate foresight adoption and outcome are still limited.

Research question no.3: what type of conceptual framework is suitable for this firm? This was visualized in respect to corporate foresight value creation as shown in Figure. 12. The framework was formed based on the theoretical proposition as described in section four. Corporate strategic foresight can create some value by

enhancing organizational capability such as organizational learning, agility and ambidexterity. This value created will potentially lead to achieving competitive advantage. Conceptual framework is basically constructed based on the theoretical proposition obtained from the existing general theories of corporate strategic foresight. Therefore, this needs to be confirmed and validated by conducting qualitative as well as quantitative research in automotive industry in the future.

VI. CONCLUSION AND RECOMMENDATION

The objective of the present study was to explore the topic related to the corporate strategic foresight as well as develop a suitable conceptual framework of corporate strategic foresight value creation for automotive industry. Through a narrative literature review, this study succeeded to investigate state of the art related to corporate strategic foresight and proposed the conceptual framework of corporate strategic foresight value creation as described in Figure. 12., in section V. As recapitulation, corporate strategic foresight has a positive effect in enhancing organizational capabilities of organizational learning, agility, and ambidexterity. Organizational learning plays a role to mediate corporate strategic foresight value creation to also enhance agility and ambidexterity capability. As the result, the enhancement of agility and ambidexterity capability leads to the achievement of the firm's competitive advantage.

Through this study, we also discovered the insight that, corporate strategic foresight is a god tools as organizational strategic approach to face the challenges of absolute uncertainties in the business external environment movement. The automotive industry also experienced a similar situation, where external environment gets more complex and dynamic that led to the demanding of high-level uncertainty of business environment. Therefore, it is highly recommended that automotive company enhance or adopt corporate strategic foresight in organization

This study has a novelty on conceptual framework of corporate strategic foresight value creation as shown in Figure 12. Its contribution enriches the body of knowledge by providing insight of the mechanism of creating organizational value through corporate strategic foresight in automotive industry. The present study particularly should answers the questions by Vecchiato (2012) and Iden et al. (2017), that most scholars have failed to clearly define the value created by corporate strategic foresight and to provide empirical evidence of its contribution to sustain competitive advantage. In section four, the mechanism on how corporate strategic foresight has a positive effect on organizational learning, agility, ambidexterity capability, was described. For practical purposes, this study could help managers, decision makers and practitioners to have a better understanding of the impact of value creation on corporate strategic foresight. Furthermore, this tends to motivate and enhance the practice of organizational corporate strategic foresight, to have a larger impact on the industry's development in the future.

In addition, based on Figure. 11, some potential research agenda for scholars interested in carrying out related analyses in the future, was identified. Most similar articles are based on case study in European companies and some USA, whilst other area such as Asia is still little. It was recommended that these scholars need to consider focussing on the topics of corporate strategic foresight adoption and outcome with case studies in Asian automotive companies. These results and suggestions contribute towards the development of the automotive industry and inspires other scholars to fill the potential gaps identified. Furthermore, the study provides insight for scholars or practitioners who intend to further explore corporate strategic foresight by summarizing the topic. Overall, it encourages practitioners to further investigate the field of corporate strategic foresight especially in automotive industry.

This study has some limitations. First, it may not be considered as all-inclusive in terms of collected research. It focused on the use of four databases namely Scopus, ScienceDirect, Pro-Quest, and Google Scholar for data collection. There is a possibility that some of the relevant research articles are not present from other databases. Second, only peer-reviewed articles published in English were included, some interesting works in other languages might have missed. Third, theoretical propositions of conceptual framework of corporate strategic foresight value creation are extracted from the existing theory for general industry, therefore it requires further empirical research either qualitative or quantitative study to confirm and validate them in automotive industry.

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