

The Effect of Organization Centralization, Organization Climate, Knowledge
Management, and Supply Chain Integration Perception on the Success of Product Launch
in the U.S. Automotive Industry

by

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Dedication

I dedicate this work to my loving parents; my wife; my three beautiful children, Yezen, Sarah, and Selene and my loving brothers, Jamil, Maher, Mohamed, and Mahmoud. I can't thank you enough for all your encouragement, dedication, love, and support. To my children, Yezen, Sarah, and Selene, you are the light of my life and my inspiration to push myself and succeed. To my loving parents, you encouraged me and taught me not give up when things aren't going as I like, and to my dear father and my dear brother Maher who passed away last year, I miss you so much, I wish you were here to share this accomplishment with you.

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Abstract

This study examines variables that may affect new product launches in the automotive industry. The automakers need to have capabilities to address product launch issues when converting their efforts into automotive products that meet consumer requirements. The aim of this study was to investigate the effect of organization centralization, organizational climate, knowledge management, and supply chain integration perception on the success and effectiveness of a product launch. The survey samples consisted of 101 respondents from automotive companies. Organization centralization perception, where decisions are made solely by upper management, had no significant correlation to the success of product launch. Analysis of the organizational climate indicated that there was no significant correlation regarding the success of a product launch however; further analysis was performed on organizational climate as a moderator. The results indicated that when organizational climate is favorable, there is a significant correlation with knowledge management, organization centralization, and supply chain. Additionally, the results also showed that when organizational climate is unfavorable, there is no significant correlation to organization centralization; however, there is significant correlation with knowledge management and supply chain. The results also showed significant correlation between knowledge management perception, supply chain integration perception, and the success of a product launch.

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Chapter 1: Introduction

Introduction

For automakers to remain relevant long-term, they must take into consideration and focus on the growing global competition, product performance, product development, and innovation in the industry. Automotive products are characterized by the demand for quality products at affordable prices, adherence in meeting legislative requirements, and need for saving cost and time. The automakers must improve all aspects of product development to meet the requirements and still generate profit in the competitive automotive business environment. According to Krishnanand Ulrich (2001), “It is necessary for the organizations to have the agility to come up with innovation, design, and new products and quickly introduce them into the market.” (p.8). The automakers need to have the capability to address product development issues in their efforts to produce automotive products that meet consumer requirements.

Being the first mover in the market provides organizations with operational and strategic advantages such as brand image, premium price charges, and amassing the market share. Therefore, product development is a process in which a new product idea or concept is developed, evaluated, designed, manufactured, and introduced to target customers. The competitive advantage in product development can be attributed to two main factors: the firm’s ability to come up with an exceptional intellectual property with superior value and a quick capitalization ability. However, time, cost, and quality are the key elements of product development that are of high concern to auto firms. Failure to focus on quality during the product development stage can be very costly for an auto firm from the moment the product is launched into the market. According to Lakhani,

Lifshitz-Assaf, & Tushman (2013), “These elements of product development can be improved through organization design, supply chain, knowledge management, experience, and technology”.

The aim of this study was to investigate the effect of organizational centralization, organizational climate, knowledge management, and supply chain integration perception on product launch success. In the process of trying to remain relevant in the world market, automotive companies have gone the extra mile by inventing new methods of running business operations. For instance, automotive companies have adopted different organizational structures to accommodate various changes in the market. Being that most automakers have different branches across the world, there is a need to have a system that enables the easy supervision of operations. Thus, most companies dealing with the manufacturing of cars have adopted centralization as the system of command. In addition, the factor of chain supply is another vital consideration in the automotive industry. According to Schmitt & Van, (2013). “The way of managing the different branches is a crucial factor that each automaker works towards making it a success”.

When distributing resources to the vast branches of the organization, management faces the challenge of appropriate and equal sharing of all the available resources. The leadership in the organization is responsible for determining the process of resource allocation. Along with other important factors that will be discussed in this research paper, the automotive industry is a unique market that requires the full dedication of all the involved stakeholders. The objective of this research is to investigate factors such as centralization, climate, knowledge management, and supply chain integration perception and their effect on the success of product launch in the automotive industry. In addition,

the various stakeholders who determine the success or failure of any business involved in the automobile industry will be scrutinized in this research paper and supported by evidence acquired from different relevant sources.

The Problem Statement

As an antecedent to the success of automotive product launch, organization centralization, organizational climate, knowledge management, and supply chain integration perception have never been critically evaluated as critical success factors. The research model for this study is illustrated in Figure 1.

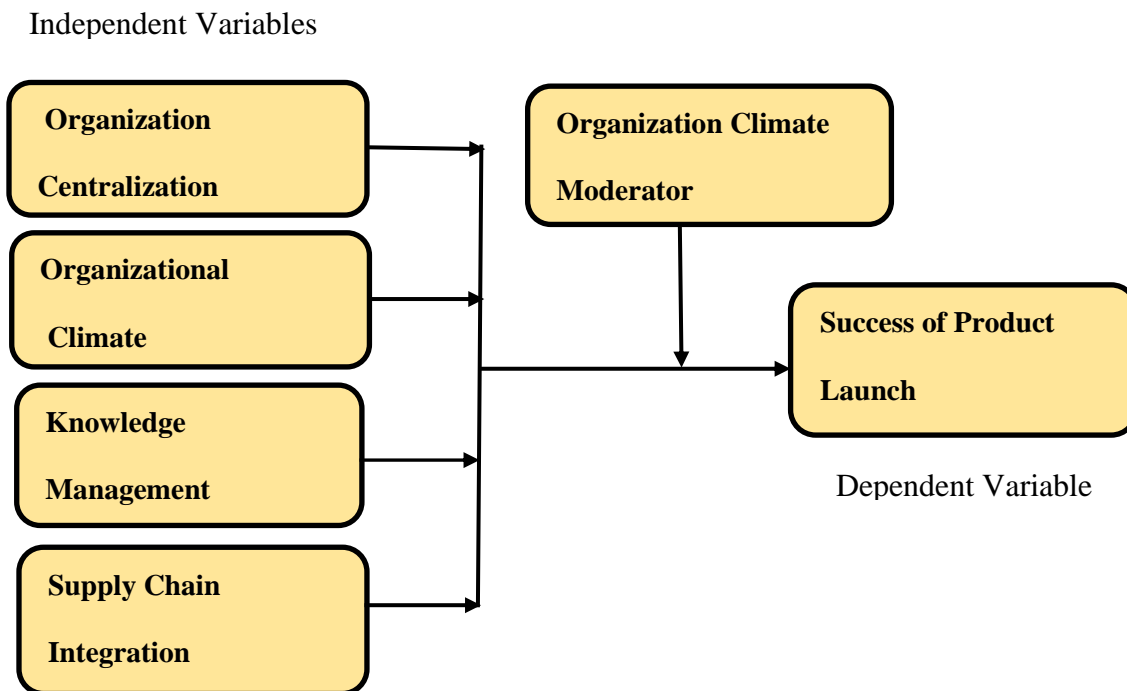


Figure 1. Independent and dependent variables: Research model.

Nature and Significance of the Problem

The increased focus on quality and cost reduction in the automobile industry is exerting pressure on automakers to make their product development more effective and

more efficient. The source of product quality attributes such as durability, performance, and reliability depend on the product development. According to You, Alard, Schönsleben, and Zhu (2009), enhanced quality of automotive products in the product development stage is a challenging issue because 40% of the automotive quality problems occur during the product development process. Many scholars such as Tsitsos (2006) and Jakpar and Na (2012) have argued that the increase in perceived quality of the product results in a high level of customer retention, reduced marketing expenses, and the capability to sell at premium prices. As stated by Sejja and Petersson (2014), the perceived low quality of GM's vehicles made the company incur a loss of \$2,300 per vehicle compared to a \$1,600 profit per car for Nissan Company. There have been many studies on specific areas such as product development, organizational structure, cross-functional teams, supply chains, technology, training, experience, and knowledge integration, but not particularly in establishing the intimate relationship between these factors in the context of automotive product development. Further research is required in this area of interest to understand the factors that would minimize cost and time and improve the quality of the automotive product development process. The aim of this research was to explore on the relationship between factors affecting an automotive product launch.

Research Objectives

The automotive industry is essential for the U.S. economy. Automakers have worked continuously to develop innovative solutions and new products as a sustainability strategy to enter and remain competitive in the global market. Bearing in mind that the global market is characteristically non-homogenous, customers in the United States exert

more varied requirements than those in the Europe. In fact, there are specific standards in each country that should be taken into consideration. Such a situation may lead to new models within a given category of vehicles that are so complex that they increase the costs of the product. These situations are essential for the U.S. automakers as they experience problems during the product development process in light of changing technological, economic, political, and social environments. Although macro environmental factors exert a substantial impact on the success of an automobile product launch, other factors at the micro level may have significant impact as well. The factors that affect the success of a product launch at the micro level include the type of organizational structure, training of cross-functional teams, type of supply chains approaches, and technology level. This study aimed to investigate the effect of these factors on the success of a product launch and whether these factors positively or negatively correlate to the success of product launch in the automotive industry. The rationale for choosing the United States automotive industry was to give this research a context in which to base the conclusion. Thus, the research shows the importance of conducting further research in this field of interest.

Research Questions

1. What is the relationship between organization centralization perception and the success of a product launch?
2. What is the relationship between organizational climate perception and the success of a product launch?
3. What is the relationship between knowledge management perception and the success of a product launch?

4. What is the relationship between supply chain integration perception and the success of a product launch?
5. To what extent does organizational climate moderate the relationship between independent and dependent variables?

Limitations and Delimitations

This study was limited to automotive companies that have procedures and processes for a product development.

Definition of Terms

The definition of terms are as follows:

1. *Knowledge Management* is defined by Rothaermel (2015) as the different ways through which information flows from one party to another in an organization. As time moves on, there are certain inevitable changes that companies meet in the process of their daily operations. It is, therefore, the role of the organization to provide the available and necessary knowledge to its employees.
2. *Organization Centralization* is defined as a management structure where decision-making is done at higher levels by those with a broader perspective that include having considerable knowledge and information about what needs to be accomplished. Decisions made by higher management are usually communicated to lower ranks in the organization, who are expected to accept and move forward in a way that is consistent with those decisions. In the recent past, as discussed by MacDuffie (2013), automotive industry companies have been changing to the centralization policy.

3. *Organizational Climate* is a multidimensional concept referring to the aspects of the work environment that members of the organization consciously and collectively perceive. Its key dimensions include organizational design, organizational communication, teamwork, leadership, management support, decision-making, commitment, motivation, job satisfaction, and culture (Noordin, Omar, Sehan, & Idrus, 2010).
4. *Product Launch* is a process where all stages are considered from idea to development to market research and is viewed in two ways: as a stage process or a series of stages that starts from an idea and ends at a product launch. According to Rafinejad (2007), product launch is defined as the “process of creating new or different products that provide innovative advantages to the end consumer.” (p. 68).
5. *Supply Chain Integration* happens as organizations try to develop partnerships and more effective communication links with suppliers, and processes become interlinked and transcend the traditional boundaries of companies. According to Power (2005), “the application of new technologies is to improve information flow and coordinate the flow of physical goods between trading partners.” (p. 252).

Assumptions

The researcher assumed that automotive companies only surveyed for this research. Other non-automotive companies were not part of this stud.

Chapter 2: Review of Literature

Environmental Context

Another contributive study in this review is that conducted by Kanagal (2015) on “Innovation and Product Innovation in Marketing Strategy.” The study focused on international markets with an emphasis on the Indian market and documented that one of the hindrances toward innovation is bureaucracies in organizations. This means that roles are strictly defined and that certain approvals must be obtained before important decisions are made. According to Kanagal, such structures hinder free thinking and force employees to rely on firm management, giving no or limited room for creative thinking. Fundamentally, human beings ought to be given freedom to contribute toward goal attainment, provided the goals, missions, and visions have been developed properly as a strategic approach in product marketing. Moreover, the author mentions that product launch is not just a composition of product development, but rather a marketing technique (Kanagal, 2015).

Furthermore, Kanagal (2015) asserts that a product launch is a key strategy in marketing that ought to conform to changing trends in most industries. He emphasizes that most organizations, especially in the auto sector, define their marketing tactics clearly because of the complexities and competition that exist in this sector. However, if the management styles and techniques used do not allow their staff members the independence necessary for decision-making, then the entire marketing process may not be as successful as anticipated. This is especially true if the conditions in the market do not seem favorable due to competition, hence making product launch efforts futile (Kanagal, 2015).

Friedrich (2015) conducted a survey titled *The Future of the German Automotive Industry by Focusing on Structural Changes in the Automotive Industry* and argued that, marketing in the automotive sector will shift soon, due to the nature of the industry. For instance, the type of products developed and sold in this industry require that potential customers visit the showrooms to see exhibitions and make purchases. Nevertheless, the technological sphere has changed the marketing strategies with the use of websites and online platforms (Friedrich, 2015). In this regard, the study suggests that companies need to shift their launching to the most reliable and widely used platforms, which can influence many people that make up a significant part of the customer pool. Friedrich, (2015) noted that “this branch of industry not only drives innovation, growth and employment, but for several decades has also determined the development of transport and peoples’ mobility habits.” (p.4) Friedrich (2015) implies that the industry has a potential for growth in the market due to increasing demand and change of tastes and preferences across the international community. Most people in the world rely on the automotive industry for mobility purposes. It is difficult then that there is no demand for the products from this sector. However, he notes that this should not be a guarantee for better performance because of other underlying factors, including the competition (Friedrich, 2015). The main advice and conclusion from his publication is that having all the stages of product development adequately planned and implemented (including product launch) can facilitate the success of products. The underpinning concept is that the product cannot perform well based on marketing alone, but it also needs to focus on the features and usability. This can be introduced in the early stages of product promotion so the public’s perception about the products will be positive.

Rakesh Batra, partner and automotive sector leader at Ernest and Young Consulting, contributed to a publication in 2015 titled, “Indian Automotive Industry Being at Crossroad.” This publication notes that the industry has, in the recent past, been faced with tough times in which profitability has not been achieved for a number of years. Surprisingly, India as a country has a large population and automotive products are in high demand. Therefore, it implies that most of the buyers in the country outsource their products from other countries, perhaps because of pricing or some other factor. Thus, the industry is compromised, despite the numerous opportunities for better performance. The publication’s conclusion and recommendation is that firms in India must re-think their marketing strategies especially in product launch (Batra, 2015). If the products are developed well through customer-driven initiatives as a form of operations strategy, followed by adequate marketing techniques and launch, it is possible to revive the industry. The publication employed a qualitative methodology failed to demonstrate how the proposed approaches can potentially improve the industry, since a majority of the consumers have already put more confidence in firms outside the country.

Another publication by Germany Trade and Investment Consulting Group authored by Bitonto and Rico in (2016) titled “The Automotive Industry in Germany” appreciates the fact that Germany is and will remain a leading automotive hub in Europe. The country remains the leading automotive innovator not only Europe but in the entire world, and its products are consumed globally. The publication focused on the dimension of product superiority and leadership in the international market. Among the various reasons documented by the publication is the fact that the country’s auto sector embraces continuous research and development, innovativeness, and product development

requirements ranging from safety standards to quality measures to satisfy customer needs (Bitonto & Rico, 2016). Further, it is noted that strategic measures put in place by the government and policies support the industry's marketing strategies by organizing international exhibitions to launch their products. Moreover, the sector focuses strictly on identifying emerging needs and changes in customer tastes to design products that are suitable for use and in line with new demands. This places Germany's marketing efforts at the helm compared to other countries, a fact that can explain excellent performance in an international market.

While seeking to understand the strategies employed by most companies that are performing well in the international market, it was generally observed that organizational climate is a very critical factor in which interactions within the firm and with the outside world are very important because they generally reduce costs associated with launching. Primarily this works by establishing alliances with the international community to maintain a good relationship that fosters performance in the long run. It is therefore imperative that organizations seek to create a good environment or organizational climate that can attract not only buyers but also investors (Bitonto & Rico, 2016).

Automotive Industry

The automotive industry contains a broad spectrum of organizations and companies that design, develop, manufacture, market, and sell automobiles. The history of the automotive industry goes back to the 1890s when manufacturers that were the pioneers of the industry created the horseless carriage. For decades, the United States has been leading in automobile production worldwide. After the Second World War in 1945, the United States automobile industry had produced about 80% of the world's

automobiles. In the 1980s, Japan took the lead until 2009 when China generated over 13.8 million units of automobiles. However, automotive companies are required to comply with some regulations and norms for them to be accepted in the automobile market. Safety is one of the top automobile regulations. Automakers can meet safety regulations through product development. In addition, product development also minimizes the occurrence of a product recall.

Overview of Success Factors

In recent decades, several research studies have investigated the success factors of product development and identified numerous factors that differentiate successful products from those that have failed during the product development process. It is significant to note that the factors pertinent to the commercial success of a product are known as critical success factors. Given this proposition, the main idea in this research paper was to investigate the existing literature relating to the factors that are critical to the success of the product launch in the automotive industry.

There are several factors that affect the launch of products in different industries. Ideally, the success of the product launch is fundamental to the success of any organization, automotive organizations included (Gawer, 2009). It is therefore imperative for organizations to strategically manage their launch strategies as well as their general decision-making process. Overall, factors that greatly influence the success of any product introduction include creating a new distribution channel or system (what is commonly referred to as supply chain management or integration), building adequate awareness through intensive marketing, centralization strategies, differentiation and

product positioning, organizational climate, appropriate pricing, technological trends, knowledge management, and total quality management, among others (Solomon, 2012).

Product launch refers to the techniques utilized by an organization in revealing a new product to the market (Cooper, 2005). In the modern business environment, it has been commonly perceived as both a strategic management technique as well as a marketing technique (Cooper, 2001). It includes deliberate actions, which are sequentially planned with special consideration to time and resource constraints, to ensure the maximum number of sales and attraction of consumers (customers) for a product on arrival to the market (Hiraoka, 2009). Ideally, this is regarded as the most important opportunity for an organization to define the perception customers will have on the product, whether it will eventually be accepted, or not (Shavinina, 2003). It therefore implies that the onset of a product in the market can easily mark its success, customer loyalty, or even failure based on introduction strategies during the launch period (Gawer, 2009).

The automotive sector, just like any other industry, has unique features that manufacturers must be aware of and consider in product development. This is the basis which determines whether the launch design will be successful or not (Nieuwenhuis & Wells, 2001). In this regard, if products are tailored to meet demand expectations, then it will be advantageous for the marketing team to deliver the same products to customers with greater ease (Rubenstein, 2001). For instance, the aspect of class which describes consumers tastes and preferences, is important. Therefore, proper market research and analysis is instrumental before the manufacturing process is undertaken to ensure that the products are in line with market needs (Gawer, 2009). Recently, the industry has

experienced several changes due to technological dynamisms, which demand that manufacturers incorporate such changes while designing quality products that satisfy needs in the modern environment (Baker & Hart, 2016).

Additionally, Benedetto (1999) suggest that the product launch primarily depends on two important managerial decisions: tactical and strategic. On tactical decisions, the author indicated that automotive firms should consider the quality of selling efforts, technical assistance or support, appropriate timing, advertising, market testing, and customer feedback. Further, he mentioned that it is important for organizations to consider strategic decisions such as promotions, research and development, total quality management, organizational structure, distribution channels, engineering, and market research (Benedetto, 1999).

Despite these many factors, this review concentrates on four fundamental factors specific to the automotive industry, which include supply chain integration, organization centralization, organizational climate, and knowledge management. These are considered the most significant variables that determine the success or failure of product launches.

Product Launch in the Automobile Industry

Product launch is defined as a process where all stages, from idea to development to market research, are considered. It is viewed in two ways: as a one stage process or a series of stages that starts from an idea and ends with the product launch. Product development was defined by Rafinejad (2007) as “the process of creating new or different products that provide innovative advantages to the end consumer.” (p. 187). The dispersion of innovation can be taken into consideration when focusing on product development. From a process point of view, product development is similar to the

innovation process, since all stages from idea to development to market research are considered. In such a context, product development is viewed in two broad ways: from a narrow view as a one-stage product development process or from a broader view as a series of stages from idea to finished product, without production scale-up and launch phases. This study explores product development from the broader view. Product development is considered complete when the product is fully developed and ready to be tested and launched in the market. Product development also includes both the development of new concepts and enhancement to already developed products. The new introduction and updates are aimed to target a niche in the market or newly identified consumer requirements. There are two approaches to product development: Fuzzy Front End and Stage-Gate process. The Fuzzy Front End involves chaotic, erratic, and unstructured product development activities, but the Stage-Gate approach is a step-by-step product development process. The Stage-Gate approach assists in maximizing the probability of a product to succeed and to reduce the risk of early product failure during the development process. Figure 2 illustrates the Stage-Gate approach. Furthermore, it is suggested that product development itself is a critical success factor that affects many automotive companies (Cooper & Kleinschmidt, 2003). The failure of the product development may lead to increased operational and contingency costs, such as product recalls, litigations, and fines as well as organizational failure.

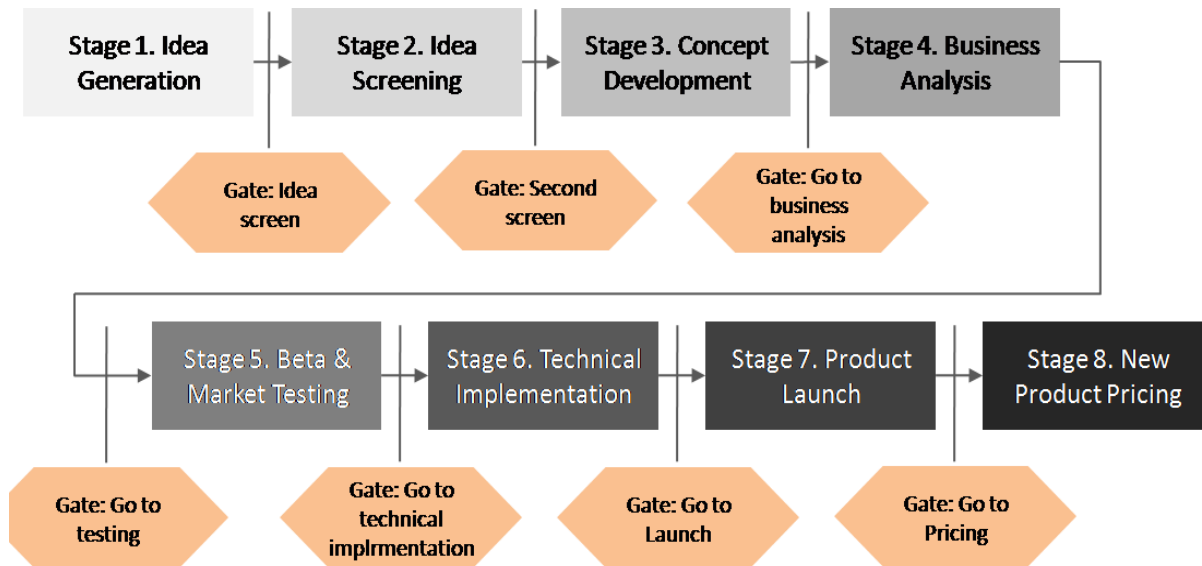


Figure 2. Stage-gate process by Cooper, Robert and Kleinschmidt, Elko. (2003).

Effectiveness of a Product Launch in Automotive Industry

According to Davenport (2013), due to the intensification of the globalization process, companies—especially the ones in the automotive industry—are forced to go an extra mile in determining different ways of satisfying each customer’s needs across the world. Each car company in the world, despite its location, has done a lot to market its automotive products to the larger world. Data collection and analysis are major factors in the production of successful and globally appreciated products. When a car company is planning to manufacture a more technologically advanced car, its success will highly depend on the available data. The data collected and analyzed by the company aid in understanding the response of the market to the new product. Data collection and analysis also help the automotive company to know its target group in the global market. The data helps in determining which branch to empower regarding the new technology introduced

in the market. Data also help in identifying the launch location of a new car in the market. Different factors determine the success of a launch process in the automotive industry. If well managed, the company will accrue returns even beyond the expectations of the executive management (Davenport, 2013).

Effects of Organization Centralization

Organization centralization is defined as a management structure where decision making is performed at higher levels by those with a broader perspective and higher levels of knowledge. Decisions made by higher management are usually communicated to lower ranks in the organization, and the lower ranks are expected to accept and move forward in a way consistent with those decisions. In the recent past, as discussed by MacDuffie (2013), automotive industry companies have been making changes to the centralization policy (p. 8). Fundamentally, the author emphasizes the fact that the global business environment is dynamic and managers cannot afford to assume emerging trends. For instance, the publication indicates that in modern days, most business entities are shifting from centralization to decentralization to expand their operations and allow their employees to make decisions while on the field for the betterment of the organization (Altman & Tripsas, 2014). In fact, such changes have enabled organizations to delegate responsibilities to branch managers as well as departmental heads in implementing production and distribution decisions that are considered important to overall organizational performance.

Regarding centralization, it is suggested that whenever firms are considering competitive strategies, it is important to consider what other firms are doing to avoid falling behind (Altman & Tripsas, 2014). Despite these contributions, the study does not

clearly demonstrate the application of this inference to the automotive industry, which can be considered different from other industries in many dimensions, including the nature of investment and the market served. The study established that when decisions are made through a decentralized business structure, there is the likelihood of motivating team members to understand the organization's philosophy and identity, hence encouraging efforts aimed at enhancing product performance during the time of launching a new product (Altman & Tripsas, 2014).

Brentani, U., Elko, K., & Salomo, S. (2010) elucidate that developing products in the automotive industry is a costly venture, in which case managers cannot afford to commit mistakes at the introduction stage. Additionally, the research shows that once a product is ready to be introduced into the market, most of the prerequisite activities have already been completed, including substantial business expenses, a fact that makes it necessary to develop candid strategies that can make the product penetrate the market successfully. Further, the study makes it clear that, due to the surge of globalization, demand for automotive products has increasingly grown, attracting many investors and competitors to the market. It therefore implies that, strategically, industry players are always concerned with the identification of new methods that can facilitate market leadership. The authors observe that decentralization has been one of the most sought-after strategies that has seen tremendous improvements in most business operations. The study indicates that the reason why decentralization is important is that it is one of the key pillars of globalization (Brentani et al., 2010). However, their research does not show the applicability of this concept in the automotive industry, which is the focus of the present study.

A study conducted by Oon (2014) on Malaysian industries titled “The Determinants of New Product Performance” also shared the same views by asserting that even though organizations can have their product development go through several approval stages, it is important to give autonomy to relevant personnel at various levels. This did not exclude marketing departments, which were considered critical together with the production department. Thus, such acts, which are different from the centralization of activities, enable employees to execute their responsibilities without necessarily seeking guidance and consent from managers before doing anything in their line of duties. Ideally, this implies that managers in organizations must seek input and feedback from employees, especially on decisions that affect employees and their well-being.

According to Oon (2014), product performance is dependent on the entire production process and decision-making stages. For instance, the study elaborates that involving employees in the decision-making on activities such as product launch, marketing, and promotion not only encourages them towards goal attainment, but also offers an opportunity for them to give their suggestions and recommendations for appropriate strategies suitable to the market. Overall, the study seems to support the foundation that the act of making decisions in centralized offices, especially in very volatile industries such as the automotive sector, is not only old-fashioned but also costly and a major hindrance toward product success (Oon, 2014).

Sengun, Townsend, and Berk (2007) carried out an empirical study titled “Factors Influencing Brand Launch in a Global Marketplace” and found out that one of the critical aspects in brand launch is customer orientation to a product, a concept that needs proper delegation of duties directly from operational and production managers to their sales

force. This is associated with adequate training of employees so that they have relevant information about product operation, performance features, and other relevant information that is pertinent to customers. Fundamentally, it implies that once the sales team or personnel are given products or involved in the launching process, it is important for them to be able to undertake decisions and actions without approval by managers to facilitate a quicker selling process. The primary objective of a product launch is to attract more buyers and achieve a higher sales volume to make the product acceptable and competitive in the market during the initial stages. It has been observed that customers usually use their first experiences they have with products to determine future buying behaviors, a fact that organizations must always have in mind while planning their launch strategies. It calls for management that prefers a decentralized form of operation to allow members of the company to make decisions while with customers to win the confidence of the public concerning the product (Sengun, et al., 2007). It goes against the emerging trend in the automotive industry when firms adopt centralization strategies as opposed to decentralization strategies.

In addition, the findings by Sengun, (Sengun, et al., 2007). reveal that globalization has profound challenges and opportunities that require vigilant and critical approaches to take advantage of them. The study concludes that the automotive industry, by its nature is global because its products are in demand around the world. Therefore, sales and marketing management must incorporate all the necessary tactics that are suitable globally, and that takes into consideration the cost element (Sengun, Townsend, & Berk, 2007). However, the study has a fundamental limitation by virtue that it does not elucidate clearly on how organization centralization can hinder the development of a new

product regarding as product launch. Despite the general notion that decentralization is becoming more common, it is important to understand that there are firms that are not ready to decentralize their functions based on the nature of their products, the type of business, and more importantly, the investment value, in which case investors or managers want to have full control of the activities. A good example of such firms is the auto industry.

Borrowing Gabriella and Florin's (2015) study titled "Success Factors of New Product Launch" on the Apple Company as a case study and applying the same product development concepts to the automobile industry, it is evident that organizational centralization suffers from three key issues that can lead to a product launch's failure. Those issues include: lack of proper knowledge and understanding of consumers, improper market assessment, and company rigidity on decision-making. Ideally, the study elaborates that the main reasons behind the successful implementation of Apple's strategies to bring into the market its iPhone brand was founded on the premise of the four key pillars: the target market, the product concept and its advantage, the positioning strategy, and the product characteristics and attributes. This approach could represent a big probability that the success rate of the product launch will rise (Gabriella & Florin, 2015). Such an advantage was derived from the decentralization approaches in which the company enabled its workforce to understand the market environment by tailoring their company strategies effectively and ensuring that the customers' needs were catered for while delivering the product through customized marketing approaches. In essence, the study supported the concept that market volatility can be well managed if stakeholders can be allowed to be part of the decision-making process.

This knowledge can be applied to the automotive industry, hence leveraging the industry's efforts toward global positioning. Even though the international market in the iPhone industry is saturated, having customized products through decentralization will enable the local companies to launch their products successfully by ensuring that there are built-in specifications tailored to customers based on social-economic status, tastes and preferences, and gender needs. In their study, Gabriella and Florin (2015) concluded that organization centralization has impending impacts on performance of products in this high-end industry by failing to have a clear understanding of market needs and performance of its products as well as not harmonizing customer needs in order to develop appealing and attractive products. A dire consequence is that products fail to conform to modern features and hence suffer major setbacks when it comes to competition, forcing manufacturers to offer their products at very cheap prices, in order to sell them out. Further, this has a potential to reduce sales volume, which goes against the main objective of product launching in any industry (Gabriella & Florin, 2015).

An empirical review implemented by Nadia (2013) titled "Investigating a Framework for Successful New Product Development" examined studies on the success of new product development and confirmed the results of most of the reviewed literature in this study. Nadia reviewed all the stages involved in product development and listed them as "idea generation, idea screening, concept testing, business analytics, marketability testing, technicalities and product development, commercialization, and post launch review and perfect pricing respectively" (Nadia, 2013, p. 748). According to this study, it was observed that each of the stages required a holistic approach in which case management support and employee involvement was crucial at all times. In this

regard, the study suggested that centralization of functions and decisions would basically mean hindering relevant personnel or limiting them from undertaking necessary creative decisions to improve performance in the entire process. In essence, this implied that before commercialization, the product must have gone through the entire process and be reviewed by independent groups who have autonomy to suggest modifications based on their market research and hence make the end product suitable for the intended niche of customers. Ideally, this assertion promotes the concept of having decentralized functions in organizations (Nadia, 2013).

One of the most fundamental research studies on automotive industries authored by Komsan (2009) titled “Automotive Process-Based New Product Development.” The study evaluated the global trends in the industry as far as developing products are concerned and established that the new product development is the process by which a new product idea is conceived, investigated, taken through the design process, manufactured, marketed, and serviced.

In the automotive industry, within the context of ISO/TS 16949:2002 (the automotive quality management system international standard), these are related to the product realization process, which consists of five phases: Plan and Define Program, Product Design and Development, Process Design and Development, Product and Process Validation, and Production Launch, Feedback Assessment and Corrective Action (Komsan, 2009).

According to Komsan (2009), all of the five processes are of paramount importance in promoting organizational goal attainment. The study connects the last stage of launch and assessment as the most crucial stage, especially in high-value products such

as motor vehicles that are manufactured by the automotive industry. Komsan's (2009) assertions are based on the fact that any wrong decision among the five phases can cost an organization fortunes and can affect the overall well-being of such a firm for a long time. One of the suggestions proposed by Komsan (2009) is the aspect of employee involvement in decision-making, meaning that important decisions should not be made at a centralized area where they are not able to be reviewed or accepted by staff members, which could potentially promote resistance to change. These reviewed literatures therefore imply that organizational centralization has had a negative impact on product launches. A recurring point in much of the literature is that by discouraging organization centralization, automotive companies enhance quality product development, promote a coordinated effort in undertaking product launch, achieve higher sales, and create a good image for the organization, which gains customers' loyalty and provides long-term benefits to a firm. However, this must be in line with the changing technology and business trends.

Effects of Organization Climate

Organizational climate is defined as a multidimensional concept referring to the aspects of the work environment that members of the organization consciously and collectively perceive. Its key dimensions include organizational design, organizational communication, teamwork, leadership, management support, decision-making, commitment, motivation and job satisfaction, and culture (Noordin, Omar, Sehan, & Idrus, 2010). An empirical examination was conducted by Christian Witt (2006) titled "Inter-Organizational New Product Launch," and it established that firms in the auto industry face a number of issues related to their operating procedures and relationships.

Essentially, modern business organizations do face a number of challenges that need adequate coordination in order to enhance competitiveness and market leadership.

According to Witt (2006), new product launch is an opportunity for an organization to showcase their unique strengths as well as promote cooperation among various stakeholders in a firm with the intention of winning customers. Many times, organization climate plays out to be an integral factor in ensuring that all the decisions and actions an organization takes are either successful or unsuccessful. Fundamentally, the automotive industry, in some cases, is faced with strategic challenges emanating from the ever-changing business environment, and the firms will need to employ adequate operational strategies to achieve desired results. An important point to consider in the process is the overall organizational behavior, standards, and ethical considerations.

Additionally, management will need to evaluate their internal processes and review the complexities and nature of their rules and regulations. This will help to ascertain if employees could easily follow such standards without deviation; for instance, if an organization establishes that most employees do not pay attention to operational procedures or rules, there is need to review the rules to find out if they are adaptable or applicable to the circumstances. More importantly, the automotive industry is one of the industries that is highly expected to conform to standards, both for quality and safety, which are considered to be critical (Witt, 2006). Although this might require management to monitor the operations, there should be efforts to allow employees to make decisions without being closely monitored, as opposed to imposing rules that are not flexible at all. Such efforts can help a firm in establishing the approaches and strategies of launching a

new product in any industry, including the auto sector (Witt, 2006). This calls for effective and simple rules that can easily be followed and applied.

A study conducted by Mohamed, Omar, and Che (2012) titled “Effects of Organizational Culture, Market Orientation, and Innovativeness Toward New Product Performance” depicts that the organization climate’s effect in product launch cannot be underestimated. According to the authors, organizations create an environment that is favorable for internal operation by understanding the external environment well (Mohamed et al., 2012). The most important aspect shown in the results is that auto firms must always focus on the innovative opportunities and capabilities to provide products that can be appreciated in the market. Further, this should be followed by regular modifications of policies and regulations used internally for having a more effective product launch (Mohamed et al., 2012). Even though the product launch is, in most cases, considered a function of marketing and sales departments, it is inevitable that management in a firm must seek to ensure all the stages of production are supporting the efforts of the product launch through total quality management and empowerment of human resources to achieve adequate coordination throughout the production process.

Ideally, the basis of achieving all these is through effective oversight of activities within the several stages products pass through right from the beginning. Unlike the service industry, the auto industry must ensure that its products are appealing to the public for the launch to be successful. This can be achieved through proper market orientation and planning (Mohamed et al., 2012). It is also important to note that there are other incidental functions or activities that must be performed by various departments during the launch exercise and management must ensure that all departments have a clear

understanding of their anticipated responsibilities. Some of the departments that are instrumental in the auto industry include but are not limited to, manufacturing, engineering, marketing, field service, product support, and sales departments (Farinha, 2015). All these departments' efforts contribute to the overall organizational climate that will have a potential impact on the success of a new product introduction.

An organization climate is further extended to include internal innovations as opposed to industry developments (Comacchio, A., Volpato, G., & Camuffo, A., 2012). It implies that a firm must come up with their own strategies and innovative ways to be ahead of other firms in the same industry. Primarily, innovation is dependent on organizational culture, employee motivation, company reputation, managerial capabilities, technological advancements, and resource availability (Mohamed et al., 2012). Therefore, when launching a product, auto firms should not just copy what other firms usually do in the same industry, but rather come up with dynamic approaches that are based on creativity and innovation.

Oliver Wyman consulting firm, formerly known as Mercer Management Consulting, published a study on car innovation entitled "The Changing Role of Innovations in the Automotive Industry" and established that

"electronics remain the biggest enabler of and driver behind 60 percent of all innovations. But the focus is shifting from single to system innovations, i.e. new functions in a car through the networking of existing components and modules. Almost all areas of a car will improve: fuel efficiency (up to 30 percent), emissions, safety and security, seamless connectivity, driving dynamics and

performance, comfort, flexibility, and room – and with more value for the money”
(p. 15).

The capabilities for innovation are key to doing things differently and creating an environment of coming up with new ideas, where management works toward implementing strategies for innovation and takes the appropriate managerial actions. According to this article, it can be deduced that innovation in the auto industry is drastically changing and organizations have no option other than ensuring there is sufficient preparation and adequate training meant to improve awareness among the internal stakeholders to steer forward mechanisms of improving product launch campaigns. Nevertheless, despite the innovation hazards that are common in this industry, the risk is worth taking, as it creates advantages, which include focusing on marketing and orientation of customers; providing a new portfolio of services and product generation, improving the efficiency and effectiveness of research and development, enhancing organizational climate and culture, and promoting innovation framework. In this regard, innovation runs across the board, right from idea development, product development, and into commercialization stages.

Effects of Knowledge Management

Knowledge management is defined as the process at which information is shared among the members of an organization with an aim of improving operations (Awad & Ghaziri, 2007). The sharing of information is founded on various dimensions which include developing skills and expertise, understanding market dynamics, promoting creativity, brainstorming superior products, comprehending customer needs, monitoring threats from competitors, explaining technological developments, and obtaining

appropriate customer feedback, among other benefits. These benefits have a direct impact on the success of product launch in different ways as echoed by different researchers.

A study by Jafari (2008) titled “Innovation Management and Technology Strategy for Sustainable Vehicle Development” focused on knowledge management in the automobile industry. The study focused on specific objectives of establishing competitive advantages and effective customer management. It elucidated that the most important aspects of knowledge management is in developing an appreciation of different stakeholders in an organization, which includes customers, employees, investors, community, suppliers, and environmental groups respectively (Jafari, 2008). Jafari (2008) echoes that organizations seek to maximize the abilities of their employees as well as the possibility of obtaining information from them. One of the most helpful approaches is through the encouragement of informal groups, which are very pivotal in supplying information that firms could not get if only formal groups are in place.

This researcher emphasized the fact that vehicle development is customer driven, and obtaining customer feedback is very instrumental in ensuring success. During a product launch, buyers express their opinion and perceptions in terms of what they think can be improved for various products to meet their needs (Jafari, 2008). However, this can only be fruitful if there are mechanisms put in place, that encourage the sharing of knowledge and information among the employees, who often review customer feedback at different times to help promote product improvement. Many times, such information is shared with management for consideration and follow-up. In this regard, it implies that employees can be instrumental in collecting informal feedback from customers during their interactions (Bitonto & Rico, 2016).

Apart from the informal communication, an organization can encourage formal platforms in which customers interact with staff specifically to give feedback in terms of complaints or compliments, and offer suggestions for future improvement (Batra, 2015). As already mentioned, this greatly helps firms to tailor product features to meet customer specifications and expectations, and avoid frustrating the customers. One important fact that must be considered is that a dissatisfied customer is a potential opportunity for competitor firms, and this will affect the performance and success of a product launch in the market. It is also important for business firms to distinguish clearly the needs of different customers. This can be achieved by sharing information on field experiences by sales people on different concerns. For instance, “there are clear niche markets of consumers who are prepared to pay more for goods and services that they consider economically valuable” (Jafari, 2008, p. 56). In essence, this implies that product launch should seek to gain sufficient information on the type of anticipated market in order to be successful.

Information sharing also enables a firm to be able to obtain feedback based on their activities with regard to compliance to corporate social responsibilities. According to Jafari (2008) “Social responsibility in business and more importantly in vehicle industry is subject the prevailing market dynamics at any given time.” (p. 68). In this case, expectations of various stakeholders must be met in order to have the products accepted as well. Market dynamics are basically changes in the market that emanate from a number of situations, such as health concerns, environmental conservation, economic situations, and legal political interference. These dimensions should never be ignored, as

they have a bearing on product performance in the market; before, during and after commercialization respectively.

Asa Kastensson (2014) from Lulea University of Technology carried out an empirical study titled “Managing Product Innovation in the Automotive Industry considering the Environmental Challenge” and found that a successful strategy in sustaining competition in the motor industry is through the efficacious introduction of new products that are in line with changing times. Nonetheless, the author cautions that new product development must always conform to environmental challenges and requirements, which are fundamental in determining how it will be perceived during its launch (Asa, 2014). In order to meet these required standards in society, it is important for the organization to share the same information with human resources through various mechanisms such as training and development. Continuous training can help employees share the changing environmental policies and reforms so as to facilitate effective operation and production; this efficiency can be traced to the launching stage as a sales and marketing approach (Jafari, 2008).

Another important approach in sharing information is through internal brainstorming. It particularly helps in determining the possible improvements necessary in achieving a product with superior quality in the market as a competitive strategy (Asa, 2014). While exchanging information and ideas, a company’s team members benefit from each other’s knowledge, hence encouraging a shared vision and goals that are key to success and improved performance. A successful product launch is an indicator of a successful organization in broader terms. It allows individuals to share their strengths while improving their weaknesses, opening an organization for opportunities that are

necessary in neutralizing threats, especially on the external factors that a company does not have control over (Asa, 2014).

A study conducted by Volpato and Andrea (2007) titled “Knowledge Management in the Automotive Supply Chain” employed a qualitative methodology and established a number of contributions in the literature of locomotive business. Firstly, the study echoed that,

“Knowledge Management (KM) has gained a relevant role in the interpretation of the competitive potential of a firm among managerial disciplines. Nowadays, much more than in the past, the sources of sustainable competitive advantage seem tightly related to the capability to generate, process and exchange knowledge and products”. This is not a new process: the roots of the competitive strength of a firm have already shifted upstream in the past, from the capability to produce at low unit costs, towards the design, the R&D potential and then towards the capability to innovate manufacturing processes”. (Volpato & Andrea, 2007, p.185).

Secondly, the study elucidated that organizations can enhance competitiveness and counter threats from new entrants as well as existing competitors if their market analysis is adequate and platforms organized internally to share and scrutinize results. This is potentially achieved by holding regular meetings internally to exchange undocumented knowledge, and hence promote the overall organization decision making process (Volpato and Andrea, 2007).

Volpato and his colleague continue to argue that the process of manufacturing is well represented in the field of managing organizational knowledge, which is a powerful

tool that every firm has. Even though knowledge is very powerful to organizations, some entities do not have proper approaches of exploiting such knowledge for their own benefit, including that from their own human resources department. Unfortunately, sometimes firms fail to maintain high standards and quality output due to lack of internal analysis of the improvements in technology (Volpato & Andrea, 2007). Additionally, automotive industry technology changes so drastically that manufacturers must always provide their research and development personnel with adequate and resourceful information, which can be shared internally to enhance productivity and promotion of products. However, this can only be achieved if the employees are encouraged through various motivational strategies (Volpato & Andrea, 2007).

Another research study by Nader, Ahmed, and Zahari (2009) titled “Virtual Teams for New Product Development as an Innovative Experience in Research and Development Engineers” also shared the same observations by noting that organizations in the automotive industry can gain insights on product launching through free knowledge obtained from Internet sources before executing their internal plans. According to them, this knowledge should first be synthesized by the employees through special meetings and compared to their internal strategies. In this case, a meeting is used as a platform or way of exchanging or transferring knowledge in an organization, by comparing what the organization has and what the employees understand based on the virtual sources (Nader, Ahmed, & Zahari, 2009). Information sharing assists in acquiring knowledge from external sources outside of the firm.

On one hand, firms promote creativity by having knowledgeable employees provide those who may not be in the same level with motivation and desire to want to

achieve more. As a result, employees become more creative, a special prerequisite for product development in car manufacturing industries. On the other hand, this increases opportunities for enhancing skills and expertise for peers within a firm. For instance, production teams may not have experience in sales and marketing, but teams in sales and marketing can help them understand what exactly to expect during product launch, which enables them to prepare in advance by developing products tailored to meet the anticipated demands (Nader, Ahmed, & Zahari, 2009).

Despite the numerous advantages in knowledge management, organizations must have in place an encouraging and favorable environment to facilitate successful implementation of knowledge management practices. This can be supported by having a good management team with appropriate leadership styles (Asa, 2014). According to Jennex (2008), there are basic provisions that must be followed especially on the concept of current issues in knowledge management. Firstly, an organization must be able to have a set of guiding principles that can be followed through knowledge management. It therefore implies that knowledge management is a process that must be followed critically. Secondly, the principles must be applied selectively and appropriately. One of the factors to be considered is that there should be a clear definition of goals. This helps team members to develop a sense of direction that is important in the entire process. Secondly, management must be transparent to employees and other pertinent internal stakeholders. Thirdly, appropriate budgeting of the resources is of paramount importance, followed by effecting the allocation expeditiously (Jennex, 2008). Fourthly, it is of utmost importance to recruit an able team and promote internal and experienced employees as a way of encouraging them to be part of the company. Fifthly, there should

be a defined structure of knowledge management that can serve as a standard against which achievement can be measured (Jennex, 2008).

A sixth factor is the effort of having a soft launch of the knowledge management meeting being held and by letting all the employees participate. This should be followed by the seventh factor, which is listening and reacting to employee's reactions (Fernandez, Leidner, & Leidner, 2014). Fundamentally, an organization can advance to the eighth step of linking knowledge to the individuals, as well as involving leadership as the ninth factor as well. These stages are very critical, as they allow initial testing on whether the process can work, and more importantly, they examined teamwork among the employees. In situations where difficulties are noticed, interventions can be pursued to rectify the situation for better results. Finally, the final two steps (tenth and eleventh, respectively) involve holding an internal contest with the sole aim of encouraging engagement among personnel or human resources in an organization as well as planning for regular training for employees as a way of having recaps for the development (Jennex, 2008). The main objective of following this process is to allow employees from different departments to interact and share experiences that are fundamental in product development. Although this has been explained in a general view, it is applicable to the automotive industry which, of course, requires improved cooperation among different groups in the organization, particularly to have the products successfully developed and launched (Fernandez et al., 2014).

Another important study on this is research conducted by Dan and Kaj (2012) titled "Knowledge Transfer, Knowledge Sharing, and Knowledge Barriers as Three Confusing Terms in Knowledge Management". The main aim of this study was to help

draw clear differences among the three terminologies. While knowledge transfer is seen as being similar to knowledge sharing, a thin line of in which transfer can be from outside sources but sharing is from within an organization. On the same note, barriers to knowledge are hindrances in the process of sharing or transferring knowledge (Dan & Kaj, 2012). According to the study, it is important for managers to understand these terms, as they are from the part of the knowledge management process, which can determine the applicability, relevance, and success of the same in product development, more importantly in launching a product in automotive industry (Dan & Kaj, 2012).

Effects of Supply Chain Integration

Supply chain integration is defined as when an organization tries to develop a partnership and more effective communication link with suppliers, and processes become inter linked and span the traditional boundaries of companies. According to Cedillo and Sánchez (2013), “The application of new technologies is to improve information flows and coordinate the flow of physical goods between trading partners.” (p. 15-39), A publication by Stefan and Philip (2009) titled “Managing the International Value in the Automotive Industry” explores the potential mechanisms of ensuring successful business operations through the appreciation of supply chain, especially in the automotive industry, which is under focus in this study. The study established that most operators in the industry have pre-determined sources of their materials that are used in the manufacture of their products (Stefan & Philip, 2009). One of the emerging trends in the modern business environment especially in automobile manufacturing as observed by the authors, is that companies have apparently stopped manufacturing from their headquarters and exporting to other countries. Rather, they have established a link of

supply chains in which all they need is material, which they use to assemble automobiles in the countries where they have branches (Stefan & Philip, 2009). This trend has been common in the past few decades in which foreign market penetration was not just an option for auto industry but a compulsory venture, if competition was sought after, while seeking to be profitable.

In this regard, the authors suggest that it is of paramount importance for companies to maintain a stronger chain of suppliers in order to reap these underlying benefits. One of the recommendations by this publication is that there should be deliberate efforts from manufacturers to maintain effective communication with their suppliers, especially during research and development activities, to understand the changing trends in the industry (Stefan & Philip, 2009). Further, this can be achieved by sharing pertinent and technical information with suppliers with the aim of incorporating features anticipated for by the customers, as this is one of the best ways to keep up with the technological advancement pace in the modern business environment (Stefan & Philip, 2009).

As a matter of fact, one of the most important questions firms will need to ask is the identification of what contributes significantly toward the internationalization of creating value in the industry. As such, it is established beyond a reasonable doubt that organizations must tap the opportunities and benefits of maintaining a good rapport with suppliers, whether local or international (Stefan & Philip, 2009). Ideally, this can include the sharing of schedules used in production regularly so that materials are dispatched and received in timely manner to avoid shortages and encourage continuous flow of goods as well as production (Stefan & Philip, 2009). Once such arrangements are effected, then it

is possible for firms to plan their resources and time well, so that they can deliver on time, and hence meet deadlines in launching their products according to their envisaged timelines.

Another informative article written by Ronald Parente and Jose Mauricio (2015) titled “Developing New Products in the Automotive Industry by Exploring the Interplay Between Process Clock Speed and Supply Chain Integration” focused on the Brazilian economy and established that the success of new product introduction in the market depends largely on supply chain integration. The article elaborates on the fact that supply chain integration in product launch is pertinent as it facilitates the establishment of appropriate strategies that can help outshine competitors in the same market. The authors state that, “The global automotive industry has gone through important structural changes over the past 20 years. Established players face increased competition, and the development of new products has become crucial to the survival of these firms” (Parente & Mauricio, 2015, p. 1). According to this position, it is upheld that understanding various drivers and dimensions of new product launch is critical owing to the evolution being manifested in the global business community. The study further recommends that this can be achieved by “automotive manufacturers capitalizing on their supplier relationships to leverage knowledge and generate new products” (Parente & Mauricio, 2015, p. 1). Borrowing from these recommendations and conclusions of the two authors, it can be inferred that the global automobile market is characterized by stiff competition, ever changing technology, increased demand internationally, and need for cost reduction; factors that support the need to have an integrated supply chain management by firms in different geographical locations.

Alie and Frank (2017) implemented the most recent research titled “Technological Innovations as a Potential Vehicle for Supply Chain Integration on Basic Metal Industries” and discovered that for a supply chain to be considered sustainable, it must have mutual benefits among the parties involved, more specifically, the suppliers and manufacturers (Alie & Frank, 2017). However, the study noted that for these common benefits to be achieved there must be in place a well-established collaboration between foreign and local industries to share the same objectives in the manufacturing process. Additionally, it is stated that the process of integration of supply chain is important because it promotes adaptation and reconfiguration of the production process to meet the current demands. In addition to this, there are specific and numerous other indirect merits, which include, but are not limited to, improvement in productivity, effective utilization of organizational resources, adequate information sharing, transfer of technology from suppliers to manufacturers, and transfer of knowledge, respectively (Alie & Frank, 2017).

Despite the numerous benefits as stated, it was also observed that in some instances if the process of supply chain integration is not adequately planned and managed, it could frustrate the entire process of new product introduction due to blurred invention, poor adaptation, improper modification, and inconsistent strategies for production improvement (Alie & Frank, 2017). Primarily, such scenarios were found to emerge from a transfer of an illogical or inapplicable framework from suppliers to manufacturers or vice versa. The study employed a survey methodology and survey respondents from metal industries but concluded that the results can be applied in many industries including the automotive industry as well as the textile industry. However, the

study's main limitation is that it did not show how metal industry is related to automotive industry in totality, although from general knowledge there seems to be some sort of relationship based on the fact that metals are used in the manufacture of vehicles and so forth. It therefore implies that the automotive industry is a sub-set of the metal industry.

Abdallah, Abdallah and Hamden colleagues also performed a study titled "The Impact of Supplier Relationship Management on Competitive Performance of Manufacturing Firms". From their study, they found that organizations focusing on being competitive and profitable must consider frequent and reliable deliveries as two important factors in regard to supply relationship management. The main goal of having reliable deliveries is that firms ought to be certain that at no point, other factors held constant, a shortage can be experienced. It is worthwhile to note that the product development stages cannot be implemented if there are no supplies, which would be used as raw materials for production. That is why it is important to initially secure frequent sources of supplies as and when they are needed (Abdallah et al., 2014). It is also not enough to secure a reliable source of materials. Firms must constantly enhance the relationship with suppliers and achieve focused supply chain integration. This enables them to share information on market dynamics, facilitate improvement, and achieve market leadership. The authors state that supply relationship management in an organization can be ascertained or measured in five main points or practices, which include "supplier quality improvement, trust-based relationship with suppliers, supplier lead time reduction, supplier collaboration in new product development, and supplier partnership/development. We measure competitive performance through cost, quality, flexibility, delivery, and on time product launch" (Abdallah et al., 2014, p. 199).

One critical observation from the five practices mentioned above is the integration of suppliers in new product development through collaboration. In the context of this study, this can be seen as a way of ensuring there is a constant information flow from suppliers to manufacturers and from manufacturers to suppliers, in order to incorporate feedback obtained from customers, as well as companies, toward quality improvement. Alternatively, quality improvement practice on suppliers can be seen as a motive aimed at complementing the latter. Nevertheless, this does not mean that the other three practices are not considered important, but perhaps the two discussed seems more practical, especially when it comes to new product launch. The study obtained data for analysis from many countries, which included, the United States, South Korea, Italy, and Japan, which means that the findings are applicable to most global manufacturing countries, especially in the automotive sector given that the economies covered under Abdallah and his colleagues' (2014) study are the leading economies in motor vehicle sector.

“An Empirical Review on Supply Chain Integration” a study was conducted by Maleki and Virgilio (2013) and published in *Management and Production Engineering Review Journal* with succinct information on supply integration. Concisely, the review analyzed 152 research studies on the topic of supply chain management and integration, and explained that despite the voluminous analysis, the concept of supply integration still seems to be in its infancy stage. From the reviewed sources, it was evidentially established that there is contradicting information concerning this topic. Fundamentally, some sources indicate that supply chain integration is only important to organizations that are in the early stages, as opposed to well-established firms (Maleki & Virgilio, 2013). Firms should focus on forming a limited number of supplier networks to fall within the

achievable boundaries. This observation contradicts the previous assertions by various researchers on the basis that they indicate that big firms like manufacturing firms and those in the automotive industries should not rely on supply chain integration for competitiveness and successful implementation of a new product launch. Nevertheless, the reviews suggested that three key pillars toward successful integration involve the determination of logistics involved, technology developments, and partnership allegiances, respectively.

Other reviewed literature also showed that it is not possible to ignore the benefits of supply chain integration in manufacturing and product development, since it has a critical and important role in addressing and reacting to changes in the industry and the market respectively (Maleki & Virgilio, 2013). The review also concluded that there ought to be a specific framework that incorporates issues such as cost, lead-time, service level, quality, and agility of any of the products in consideration. Regardless of these contributions, the framework will, in some instances, need to be specific to a given industry. For instance, the automotive industry will focus more on aspects such as cost of materials, lead-time, and quality as opposed to agility and service level. According to this concept, the sole focus is on product development, owing to the various stages, including the launching of products. There are arguments that are founded on the premise that supply chain integration has tremendous contributions to overall quality improvement in manufacturing.

In addition, supply chain integration or management is considered critical in striking a balance between the many components in product development. These include the aspects of environmental complexity as well as operational strategies. Once due

process is followed in striking such balance, the end result is that products are accepted to the market, consumers develop unconditional positive regard, law enforcement agencies and bureau of standards approve the products, and performance is guaranteed through relevant strategies during and after the launching stage (Alie & Frank, 2017). Further, empirical evidence indicates that due to the developments in technology, it is important for auto industries to fully shift toward digital platforms and ensure that supply chain management is well managed, to benefit and be in line with trends in the business environment.

Marc and Sven (2010) also conducted a research survey titled “Early Supply Chain Integration into the Product Development Process” and indicated that the current business environment, especially in the automobile industry, requires critical analysis in evaluating the strategies that are being developed by various departments. While drawing attention to the sales and marketing department, it is encouraged that organizations should emphasize the adoption of policies that can attract confidence from outside stakeholders, more importantly customers and suppliers (Marc & Sven, 2010). One of the primary recommendations of the study is that there should be deliberate efforts by management to encourage suppliers to give truthful and reliable information by being transparent about their supplies. This can help the organization to be cautious and careful while designing products like motor vehicles.

Additionally, the study states that it is important to promote a greater sense of cooperation between an organization and the suppliers through special programs where ideas and visions are shared. Such platforms should allow the suppliers to participate in all the programs run by an organization so that they can also get to understand the

dynamics in the business environment. It can also help the suppliers to be in the manufacturers' shoes by quickly responding to issues when they arise with urgency. In this case, it helps to solve all the hindrances and challenges faced during product development in a timely manner, which allows more time to be dedicated to successful product launch campaigns (Marc & Sven, 2010).

Summary

From the reviewed literature, it is evident that the success of a product launch is affected by the four variables: organization centralization, organizational climate, knowledge management, and supply chain integration perception. These variables have specific effects in ensuring a product launch is effective. Firstly, it was established from most of the studies that centralization of an organization has the potential of both positive and negative effects on the success of a product launch. Nevertheless, the negative effects seem to be greater than the positive effects, especially in those cases where employees are not given opportunities to contribute and be part of the decision-making. This discourages teamwork and motivation in ensuring success. Secondly, a review on the organizational climate also revealed that it is necessary for firms to ensure that their cultures and procedures are in line with new trends in business, particularly with management and leadership styles. Thirdly, the empirical evidence analyzed has also demonstrated that one of the most powerful tools in promoting product introduction to the market is knowledge management, which is so far not an event but a process commencing right from idea generation to commercialization of the products. Lastly, supply chain integration has also been reviewed and established to be instrumental in shaping the outcome of launching a product, whether it will be successful or not.

This literature review confirmed that factors to consider in determining whether there is effectiveness of product launch include whether the product launch was on time, whether product development cost was within budget, if product launch quality metrics were met or not, and if there were no major launch issues prior to the time of the launch exercise. Briefly, all these elements are important while making a decision concerning the performance of a launch process.

Chapter 3: Methodology

Statement of Research Design and Rationale

This study utilized a quantitative research design to explore the factors affecting the success of automotive product development in the United States. In this research, quantitative research design is intended to provide information regarding the current product development in the U.S. automotive industry. Another justifiable reason is that this research design facilitates the collection of data without manipulation of the environment. Therefore, a descriptive research design was a good fit for this study. Furthermore, this research will employ descriptive-survey research methodology to describe the critical success factors for automotive product development.

Population Samples and Data Collection

In this study, the population examined consisted of 101 subjects from the automotive companies. Exactly 250 surveys were collected, and a SurveyMonkey link was sent through email also. The survey link was posted on the LinkedIn website for those professionals who are registered and use it.

During the distribution of questionnaires, the study utilized a non-probability sampling method to collect conveniently available data. Surveys were used to collect data because of their low-cost and timesaving characteristics (Gravetter & Forzano, 2015). The actual sample size for this study was 101 qualified respondents. The respondents included department manager, project manager, quality managers, process managers, senior quality advisors, engineers, and senior advisors of automotive companies. The companies that were selected for this study were mainly organizations that assembled vehicles. Suppliers of the automotive companies were not a focus of the study because

some of these suppliers manufacture other non-automotive parts. The target group of this study was strictly automotive companies. Of the 250 contacted, 112 responded, representing a response rate of 44.0 percent. Of the 112 responses, six of the surveys were disqualified due to the respondents being from outside the target group and five were disqualified for being incomplete.

The Scale and Measurement

A 38-question survey was conducted via SurveyMonkey (found in Appendix A) and distributed to automotive companies within the United States. The dependent variable for this research study was the success of product launch within the automotive companies and organization centralization, organizational climate, knowledge management and supply chain integration factors served as independent variables in this research study. The impact of each scale on the success of automotive product launch management was measured by 5-point Likert scale: disagree (1); *slightly disagree* (2); *neither agree/disagree* (3); *slightly agree* (4); *agree* (5). The Likert scores formed the basis for statistical analysis of the study's variable and determined which of the following bears the strongest correlation with the success of automotive product launch.

Organizational Centralization

A scale was developed by documenting each of the items listed in Table 1. A 5-point scale was utilized for each item. The alpha reliability for this scale for all seven items is .833. These items represent the organization centralization and high validity and reliability contents.

Table 1

Organizational Centralization

1. Approval and decisions at product development go through many channels.
2. Management in this organization does not seek input and feedback from employees in the process of making important decisions.
3. Management does not seek input and feedback from employees especially on decision that affect employees and well-being.
4. Employees are not given the opportunities to be involved in decision-making.
5. Little action can be taken until a manager approves a decision.
6. I have to ask my boss before I do almost anything.
7. Any decision I make has to have my Manager's approval.

Organizational climate.

A scale was developed by documenting each of the items listed in table 2.

A 5-point scale was utilized for each item. The alpha reliability for this scale for all seven items is .630. These represent the organizational climate contents

Table 2

Organization Climate

1. My organization allows employee freedom from rules.
2. My organization is characterized by many procedures.
3. Most employees pay little attention to rules.
4. It is expected that there will be no deviation from rules and policies.
5. Employees ask for permission before deviating from rules and policies.
6. Employees are constantly being checked for rule violations.
7. I feel as though I am constantly being watched to see if I obey all the rules.
8. Rules and procedures should be modified in order to achieve more effective product launch.
9. Insistence on following written policies and procedures interfered with our ability to develop an effective product launch.

Knowledge management.

A scale was developed by documenting each of the items listed in Table 3. A 5-point scale was utilized for each item. The alpha reliability for this scale for all five items is .706. These represent knowledge management and high validity contents.

Table 3

Knowledge Management

<ol style="list-style-type: none"> 1. My organization has created techniques for obtaining the knowledge that is not written down by employees. 2. My organization promotes and encourages sharing knowledge management among employees. 3. Team members benefit from each other's knowledge. 4. My organization uses internal tracking system to capture lessons learned and product Knowledge. 5. Meetings are used as a tool of transferring knowledge management in my organization.

Supply chain integration.

A scale was developed by documenting each of the items listed in Table 4. A 5-point scale was utilized for each item. The alpha reliability for this scale for all seven items is .68. These represent supply chain contents.

Table 4

Supply Chain Integration

<ol style="list-style-type: none"> 1. You have effective communication with your supplier during research and development. 2. Technical information is shared between you and your supplier. 3. You share your production schedule with your supplier on regular basis. 4. Your supplier is transparent when sharing information. 5. There is collaboration with your supplier development programs. 6. Your suppliers participate in all of your product development meetings. 7. Your suppliers shows a sense of urgency when issues arise.
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Product launch.

A scale was developed by documenting each of the items listed in Table 5. A 5-point scale was utilized for each item. The alpha reliability for this scale for all six items is .75. These represent supply chain and high validity contents.

Table 5

Product Launch

1. In my organization product launches are typically on time.
2. Product development cost is typically within budget in my department.
3. Typically launch quality metrics are met.
4. On average, there are no major launch issue prior to launch deadline date.

Reliability and validity

It is significant to note that the face validity is used to ensure that the instruments measure only what they are designed to. Experts such as production managers, supply chain consultants, and engineers were consulted to ensure that the scales are valid from a face validity perspective. All variables were tested to determine the reliability of the study using Cronbach's alpha to ensure internal consistency. The results showed the Cronbach's alpha coefficient. The dependent variable was Product Launch (0.757), and the independent variables, were Organization Centralization (.833), Organizational Climate (0.630), Knowledge Management (0.706) and Supply Chain Integration (0.681) as shown in Table 6 in Chapter 4. Alpha Values exceeding 0.7 show reliability evidence

Data Analysis

Data drawn from the survey was analyzed by carrying out measures of central tendency (mean, median, mode, standard deviation, range, and standard error) and shape (skewness and kurtosis) were reported. P-values and f-ratios were analyzed to determine factor significance. Correlation analysis was performed to evaluate the research questions. The items were combined into scales for the dependent and independent variables. The research questions and hypothesis were tested through Pearson correlation.

Personnel

The researcher developed the survey questions in cooperation with members of the doctoral committee. The questionnaire was administered by the author of this study via Survey-Monkey.

Human Subjects Approval

A request for approval of research involving human subjects along with a dissertation proposal was submitted to the university human subjects review committee at the graduate school for approval (see Appendix B). Additionally, the researcher completed the required online training module sponsored by Collaborative Institutional Training Initiative (CITI).

Chapter 4: Results

This chapter will discuss the results and the analysis of the survey, which includes descriptive statistics for demographics and descriptive statistics for each research question. Surveys were issued to participants using a Survey-Monkey link and survey handouts.

Descriptive Statistics for Demographics

Figure 3 shows the demographics by gender. There were total of 101 qualified respondents who completed the instrument. There were 62 males (61.38%) and 39 females (38.61%).

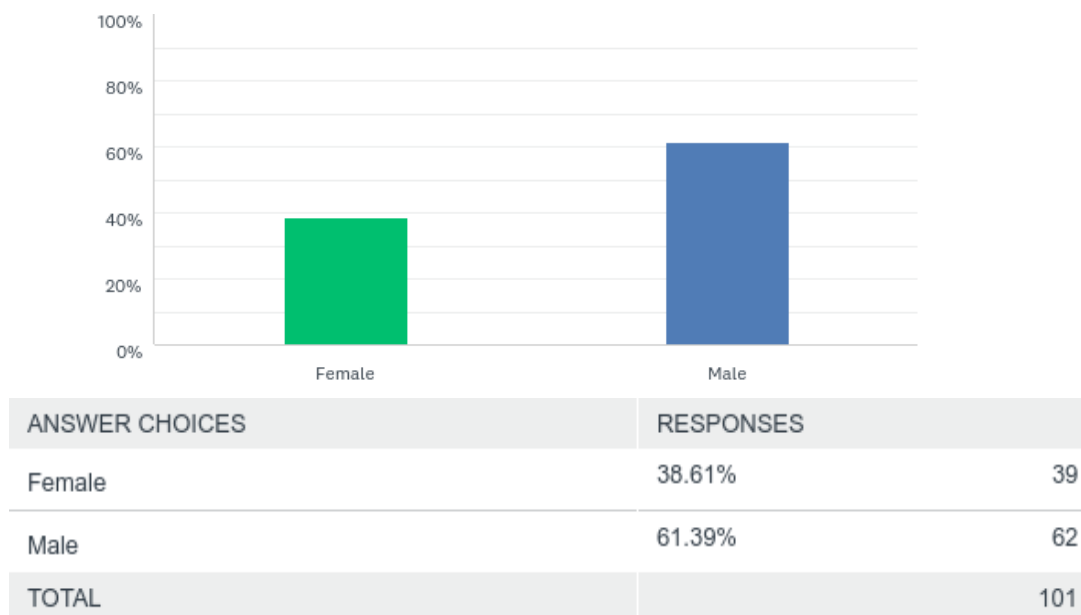


Figure 3. Demographics by gender.

Figure 4 shows the level of education of the respondents. Of the 101 respondents, there were 4 (3.96%) that have some college but did not finish, 6 (5.94%) that had an associate's degree, 56 (55.45) that had a bachelor degree, and 35 (34.65%) that had a master's degree.

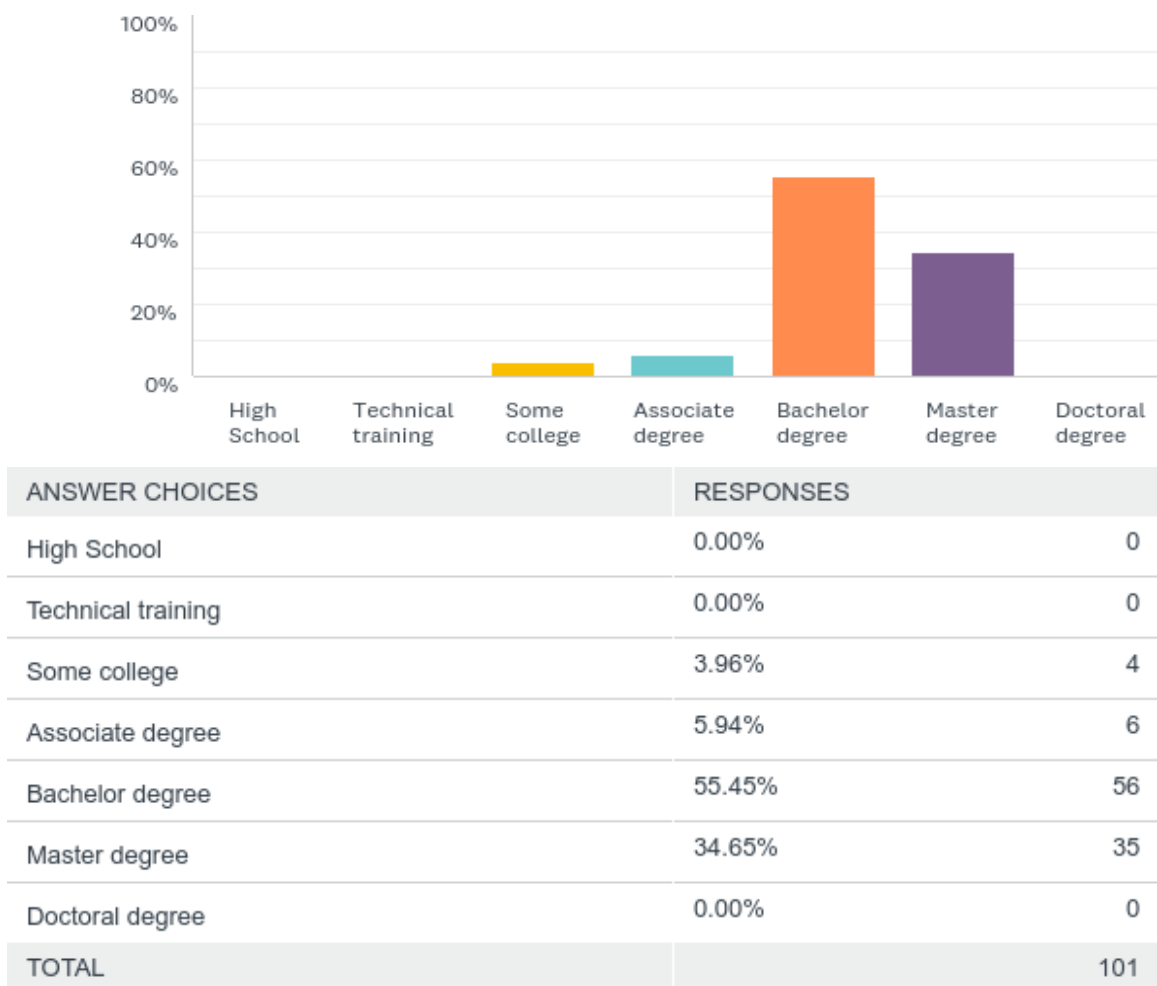
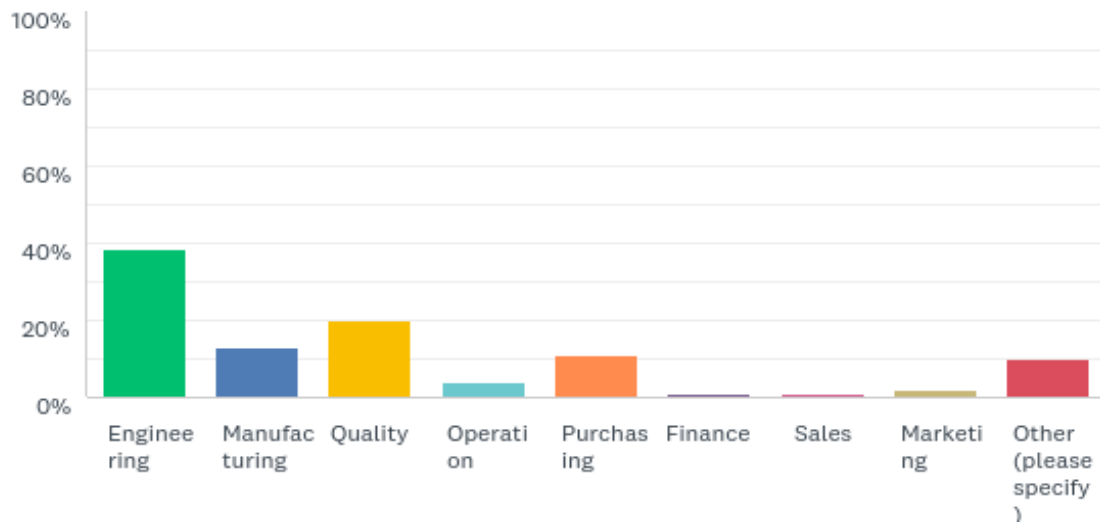


Figure 4. Level of education.

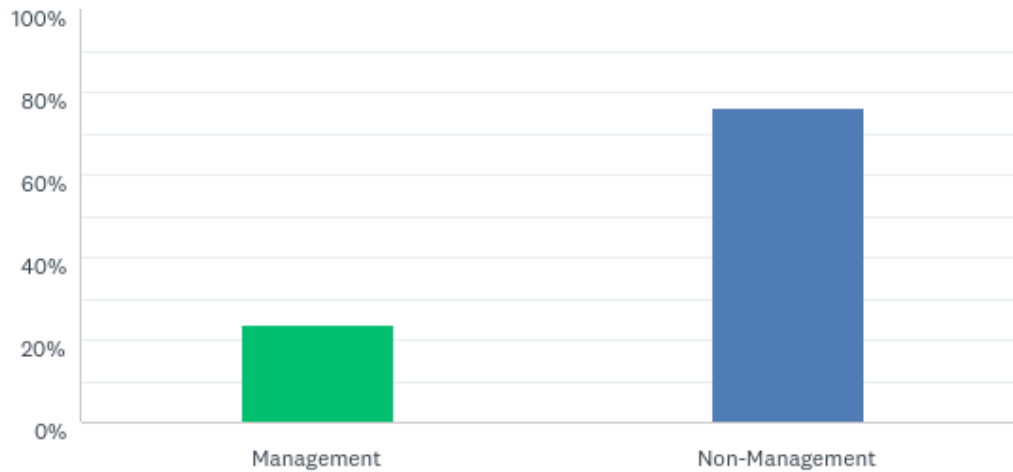
Figure 5 shows the current job function of the respondents. Of the 101 Respondents, 39 (36.61%) were working in engineering, 20 (19.80%) were working in quality, 13 (12.87%) were working in manufacturing, 11 (10.89%) were working in purchasing, 4 (3.96%) were working in operations, 2 (1.98%) were working in marketing, 10 (9.90%) were identified as other, 1 (.99%) was working in finance, and 1 (0.99%) was working in sales.



ANSWER CHOICES	RESPONSES
Engineering	38.61% 39
Manufacturing	12.87% 13
Quality	19.80% 20
Operation	3.96% 4
Purchasing	10.89% 11
Finance	0.99% 1
Sales	0.99% 1
Marketing	1.98% 2
Other (please specify)	9.90% 10
TOTAL	101

Figure 5. Job function.

Figure 6 shows current job role of the respondents. Of the 101 respondents 24 (23.76%) were management, and 77 (76.24%) were non-management.



ANSWER CHOICES	RESPONSES	
Management	23.76%	24
Non-Management	76.24%	77
TOTAL		101

Figure 6. Current Job role.

Reliability Test of the Variables

The questionnaires were evaluated and tested for reliability using Cronbach's alpha coefficient. A 5-point-Likert scale study was used for this survey, and SPSS software was utilized to test for the reliability of the scales. The test was performed on each variable of this study. Table 6 describes the alpha reliability scores for each of the scales:

Table 6

Reliability Results

	Variable Name	Codes	Number of Items	Cronbach's α
Dependent Variable	Success Product launch	PL	4	.757
Independent Variables	Organization Centralization	OCENT	7	.833
	Organizational Climate	OCLMT	9	.630
	Knowledge Management	KMG	5	.706
	Supply Chain	SCH	7	.681

Note. Organization Centralization, Organizational Climate, Supply Chain, Knowledge Management (IDV) & success of Product launch (DV) N=101 Variables

Research Questions

Research question1. What is the relationship between organization centralization perception and the effectiveness of a product launch?

The correlation analysis showed that there was no significant correlation between the relationship of organizational centralization perception and the success of product launch. The p-value was .080 and the Pearson Correlation was -.175, as shown in Table 7

Research question2. What is the relationship between organizational climate perception and the effectiveness of a product launch?

The correlation analysis showed that there was no significant correlation between the relationship of organizational climate perception and the level of the effectiveness of a product launch. The p-value was .604 and Pearson Correlation was -.052, as shown in Table 7

Research question 3. What is the relationship between knowledge management perception and the effectiveness of a product launch?

The correlation analysis showed a significant correlation between knowledge management perception and the level of the effectiveness of a product launch. The p-value was .000 and the Pearson Correlation was .495, demonstrating a strong significant correlation as displayed in Table 7.

Research question 4. What is the relationship between supply chain integration perception and the effectiveness of a product launch?

The correlation analysis showed a significant correlation between supply chain integration perception and the level of the effectiveness of a product launch. The p-value was .000 and the Pearson Correlation was .368, demonstrating a strong significant correlation as displayed in Table 7

Table 7

The relationship between Organization Centralization, Organizational Climate, Supply Chain, Knowledge Management (IDV) perception & success of Product launch (DV)

Variable Name	N	Sig.	Pearson Correlation
Organization Centralization	101	.080	-.175
Organizational Climate	101	.604	-.052
Supply Chain	101	.000	.368**
Knowledge Management	101	.000	.495**

Note. N=101 Variables. * Correlation is significant at the .05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

Research question 5. To what extent does organizational climate moderate the relationship between independent and dependent variables?

As revealed in Table 8, organizational climate moderates the correlation between organization centralization and success of product launch. The favorable organizational climate reveals a moderately strong statistically significant relationship. The unfavorable organizational climate category shows no relationship. Additionally, organizational climate moderates the correlation between knowledge management and the success of product launch. The favorable organizational climate reveals a strong statistically significant relationship. The unfavorable organizational climate category shows a moderately strong statistical relationship. Also, organizational climate moderates the correlation between supply chain integration and success of product launch. The favorable organizational climate reveals a moderately strong statistically significant relationship. The unfavorable organizational climate category shows a strong statistically relationship.

Table 8.

The Relationship Between Success of Product launch (PL), Organization Centralization (OCENT), Knowledge Management (KM), Supply Chain Integration (SCH), as Moderated by Organizational Climate Management (OCLMT).

		PL*OCENT	PL*KM	PL*SCH
OCLMT	Pearson Correlation	0.32**	.575**	.320**
Favorable	Sig. (1-tailed)	.029	.000	.029
	N=36	36	36	36
OCLMT	Pearson Correlation	-.129	.433**	.426**
Unfavorable	Sig. (1-tailed)	.305	.000	.000
	N=65	65	65	65

Note. * Correlation is significant at the .05 level (1-tailed). ** Correlation is significant at the .01 level (1-tailed).

Chapter 5: Discussion

In this chapter, the research questions will be discussed in detail based on the data analysis and findings provided in Chapter 4. The first question that is examined in this research is the relationship between organization centralization perception and the effectiveness of a product launch. The result showed no significant correlation between organization centralization perception and the success of a product launch, which reveals that centralization did not have an impact on launch success within the context of this study. Brentani, Elko, and Salomo's (2010) research indicated that the reason why decentralization is important is that it is one of the key pillars of globalization.

The second research question examined the relationship of organization climate perception and the effectiveness of a product launch. The result indicated that there was no significant correlation between organization climate perception and success of a product launch (Witt, 2006). Research indicated that the automotive industry is highly expected to conform to the rules, and the procedures are considered critical for a successful product launch. There are two types of employees at a company when it comes to organizational climate, employees who perceive the climate as favorable and employees who perceive climate as unfavorable. Further analysis was conducted to use climate as a moderator to dig deep into the organizational climate on how employees who perceive climate as favorable and those who perceive climate as unfavorable influence the other variables of centralization, knowledge management, and supply chain.

The third research question examined the relationship of knowledge management perception and the effectiveness of a product launch. The analysis and results indicated that there is a highly significant correlation that shows when employees seek and share

knowledge with other employees and use the sources available to them by their employer to increase their knowledge, it will often lead to improved quality and a successful product launch. As time moves on, things keep automatically changing in the world. For any business to progress properly, the monitoring of the various changes taking place is vital. The relevance of a company in the market, especially automotive, highly depends on the availability of knowledge among the workers. As changes keep on surfacing in the automobile market, automotive companies need to create a culture of growth and sustenance of new information among workers. Across the world, car companies used to rely on one system of communication to share knowledge. In the modern world, information needs to be passed on and processed faster so that the company maintains its place in the global automobile market (Rothaermel, 2015).

The fourth research question examined the relationship of supply chain integration perception and effectiveness of a product launch. The results showed a high significant correlation regarding the relationship of supply chain integration perception and the success of a product launch. “One approach that many companies in developed countries have adopted to achieve these objectives is to require suppliers to make frequent, reliable deliveries of small lots of high quality parts and encourage them to participate in the purchasing plant’s continuous improvement” (Scholten, Stevenson, & Van Donk, 2006). Farahani et al. (2005) indicated that “The long-term relationship with the suppliers encourages loyalty and reduces the risk of an interruption to supply” (p. 92). Supply chain is an important factor that will significantly impact the success of product launch in the automotive industry; if suppliers are successful and provide good quality parts to the automotive company, it goes a long way in the success of product launch.

As discussed previously in regard to organization climate effect, the overall results showed no correlation to product launch; however, since organizational climate is an important factor and based on my own experience working for the automotive industry, I have decided to use the organizational climate factor as a moderator and look to divide the respondents into two groups, one group that sees organization climate as favorable and one that sees it as unfavorable, in addition to investigating the correlation with other variables. The results of the analysis showed that when using organizational climate as moderator, employees who favor an organizational climate where they have the freedom to voice their opinion, do not feel they are closely monitored, and follow the rules and procedure showed a highly significant correlation to a successful product launch. As discussed by Balkar (2015), organizational climate is crucial to creating conditions to maximize job performance of employees and motivate innovative behavior. Balkar further clarified that innovative behavior and high job performance could only be attained where the organizational climate is favorable.

The results also showed that when organizational climate is favorable that there is highly significant correlation with knowledge management, organization centralization and supply chain. Chen and Huang's (2007) findings support this idea. Chen and Huang examined the impact of organizational climate on knowledge management and found that an innovative and cooperative climate is correlated to social interaction. They also established that when an organizational structure is more integrated, decentralized, and less formalized, social interaction becomes highly favorable to knowledge management, innovativeness, and product development.

Further analysis showed that when organizational climate is not favorable, the correlation with organization centralization is not significant; it also showed reduced correlation with knowledge management and higher correlation with supply chain.

Kastensson (2014) conducted a related qualitative study at Volvo Cars in an attempt to explore the conditions that hinder or encourage new product development. He established that large automotive companies experience difficulties in fostering radical innovations.

Kastensson also found that organizational climate favors innovative product development while conflicting demands to try newer opportunities hinders it.

Chapter 6: Conclusion

This research study examined the effect of organization centralization, organizational climate, knowledge management, and supply chain integration perception on the success of a product launch in the automotive industry. It was established from the data and the analysis that there was a relationship between several of the independent variables and the dependent variable of effectiveness and success of a product launch in the automotive industry.

The effect of centralization of an organization perception and the success of a product launch can be both positive and negative; however, the negative effect has greater impact than the positive effect. The organization centralization perception data showed employees were not involved in the decision-making during launch and management in most cases did not seek feedback. This discourages employees from being team members and feeling motivated to ensure that the launch will be successful. Reviewing organization climate perception showed that it is vital for auto companies to have their culture and procedures updated to the latest technology to compete in the market place and continually improve their management styles and leadership. Additionally, knowledge management perception has proven to be an effective tool in ensuring that automotive companies create and maintain a culture of growth and sustenance of new information among workers across the world. For instance, when there is the need to improve on a given technology, all branches of the organization across the world must be informed promptly. Knowledge is shared either through written or verbal communication Pollard, D., Chuo, S., & Lee, B. (2016). The study also suggests it's important to maintain and sustain good relationships between automotive companies and

their supply base. Communication and transparency between automotive companies and suppliers is vital, and cooperation must occur at all levels to ensure a successful launch. The data also showed in some cases the suppliers do not react very quickly or show sense of urgency when there is a quality issue. Automotive companies should improve their relationship with suppliers and partner with them, as both must succeed to be competitive in this business.

Car companies used to rely on one system of communication to share knowledge. With organizational climate, it's vital that companies move to promote teamwork and motivation in ensuring success. Secondly, a review on organizational climate also revealed that it is necessary for firms to ensure that their cultures and procedures are in line with new trends in business, particularly with management and leadership styles. Thirdly, the empirical evidence analyzed has also demonstrated that one of the most powerful tools in promoting product introduction to the market is knowledge management, which is so far not an event but a process commencing right from idea generation to commercialization of the products. lastly, supply chain integration perception has also been reviewed and established to be instrumental in shaping the outcome of launching a product, whether it will be successful or not. It is of paramount importance for companies to maintain a stronger chain of suppliers in order to reap these underlying benefits (Stefan & Philip, 2009). Since this study focused on U.S automotive, it is suggested that future research should focus on the global automotive industry.

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Appendices

Appendix A: Research Questionnaire

1. Welcome to My Survey

Participant Informed Consent Agreement.

Purpose of this research:

This research will investigate factors that influence the success of product launch in the automotive industry.

Subject participation and duration:

Survey will take approximately 10-15 minutes to complete.

Funding:

This research is unfunded

Risks:

There is no anticipated risk in taking this survey. Your participation in this study is voluntary and you have the right to refuse to participate or stop and leave the study at any time without any penalty

Confidentiality /Privacy:

The information you provide will remain completely confidential. Your names and email addresses are not collected as a part of this survey. All data will be stored in the Survey Monkey or on the researcher's password-protected computer and within password-protected files.

Benefits:

There are no direct benefits for participating in this research survey. However, your responses may help us understand more about the factors that affect the success of product launch in the automotive industry.

Contact Information:

If you have any questions about the research, survey or procedures, please contact the research advisor, Professor Al Bellamy via email at albellamy@emich.edu or the principle investigator, Raed Anabtawi at ranabtaw@emich.edu. For questions about your rights as a research subject, you can contact the Eastern Michigan University Office of Research and Compliance at human.subject@emich.edu or by phone at 734-487-3090

Statement of Consent

I have read this form. I am 18 years of age or older and voluntarily agreed to participate in this survey.

2. Employee Information

1. Gender

- Female
 Male

2. Level of Education

- High School
 Technical training
 Some college
 Associate degree
 Bachelor degree
 Master degree
 Doctoral degree

3. What is your current job function in current organization ?

- Engineering
 Manufacturing
 Quality
 Operation
 Other (please specify)
 Purchasing
 Finance
 Sales
 Marketing

4. Type of Industry

- Automotive
 Non-Automotive

5. What is your job role?

- Management
 Non-Management

6. Years of experience in Automotive Industry

3.

7. Approvals and decisions at product development go through many channels.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree /Disagree

8. Management in this organization does not seek input and feedback from employees in the process of making important decision.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree / Disagree

9. Management does not seek input and feedback from employees especially on decision.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

10. Employees are not given the opportunities to be involved in decision-making.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

11. Little action can be taken until a manager approves a decision.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

12. I have to ask my boss before I do almost anything.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

13. Any decision I make has to have my Manager's approval.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

14. My organization allows employees to deviate from the rules.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

15. My organization is characterized by many procedures.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

16. Most employees pay little attention to policies and rules.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

17. It is expected that there will be no deviation from rules and policies.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

18. Employees ask for permission before deviating from rules and policies.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

19. Employees are constantly being checked for rule violation.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

20. I feel as though I am constantly being watched to see if I obey all the rules.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

21. Rules and procedures should be modified in order to achieve more effective product launch.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

22. Insistence on following written policies and procedures interfered with our ability to develop an effective product launch.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

23. My organization has created techniques for obtaining the knowledge that is not written down by employees.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

24. My organization promotes and encourages sharing knowledge management among employees.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

25. Team members benefit from each other's knowledge.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

26. My organization uses internal tracking systems to capture lessons learned and product knowledge.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

27. Meetings are used as a tool to capture and document knowledge in my organization.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

28. You have effective communication with your supplier during the research and development process.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

29. Technical Information is shared between you and your supplier.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

30. You share your production schedule with your supplier on a regular basis.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

31. Your supplier is transparent when sharing information.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

32. There is collaboration with your supplier development programs.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

33. Your suppliers participate in all of your product development meetings.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

34. Your suppliers show a sense of urgency when issues arise.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

35. In my organization product launches are typically on time .

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

36. Product development cost is typically within budget for my department.

- Disagree Slightly Agree
 Slightly Disagree Agree
 Neither Agree/Disagree

37. Typically launch quality metrics are met.

- | | |
|--|--------------------------------------|
| <input type="radio"/> Disagree | <input type="radio"/> Slightly Agree |
| <input type="radio"/> Slightly Disagree | <input type="radio"/> Agree |
| <input type="radio"/> Neither Agree/Disagree | |

38. On average, there are no major launch issues prior to launch deadline date.

- | | |
|--|--------------------------------------|
| <input type="radio"/> Disagree | <input type="radio"/> Slightly Agree |
| <input type="radio"/> Slightly Disagree | <input type="radio"/> Agree |
| <input type="radio"/> Neither Agree/Disagree | |

Appendix B: Human Subjects Approval

RESEARCH @ EMU

UHSRC Determination: EXEMPT

Date: August 8, 2017

To: Raed Anabtawi
Eastern Michigan University

Re: UHSRC: # A20170803-1
Category: Exempt category 2
Approval Date: August 8, 2017

Title: The Affect of Organization Centralization, Organization Climate, Knowledge Management and Supply Chain Integration on the success of Product Launch in the Automotive Industry

Your research project entitled, *The Affect of Organization Centralization, Organization Climate, Knowledge Management and Supply Chain Integration on the success of Product Launch in the Automotive Industry* has been determined Exempt in accordance with federal regulation 45 CFR 46.102. UHSRC policy states that you, as the Principal Investigator, are responsible for protecting the rights and welfare of your research subjects and conducting your research as described in your protocol.

Renewals: Exempt protocols do not need to be renewed. When the project is completed, please submit the **Human Subjects Study Completion Form**.

Modifications: You may make minor changes (e.g., study staff changes, sample size changes, contact information changes, etc.) without submitting for review. However, if you plan to make changes that alter study design or any study instruments, you must submit a **Human Subjects Approval Request Form** and obtain approval prior to implementation.

Problems: All major deviations from the reviewed protocol, unanticipated problems, adverse events, subject complaints, or other problems that may increase the risk to human subjects or change the category of review must be reported to the UHSRC via an **Event Report form**.

Follow-up: If your Exempt project is not completed and closed after three years, the UHSRC office will contact you regarding the status of the project.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-3090 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

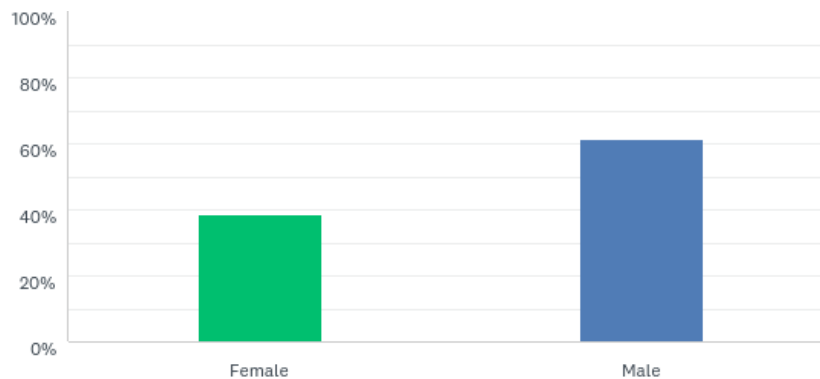
Sincerely,

April M Gravitt, MS
Research Compliance Analyst
University Human Subjects Review Committee

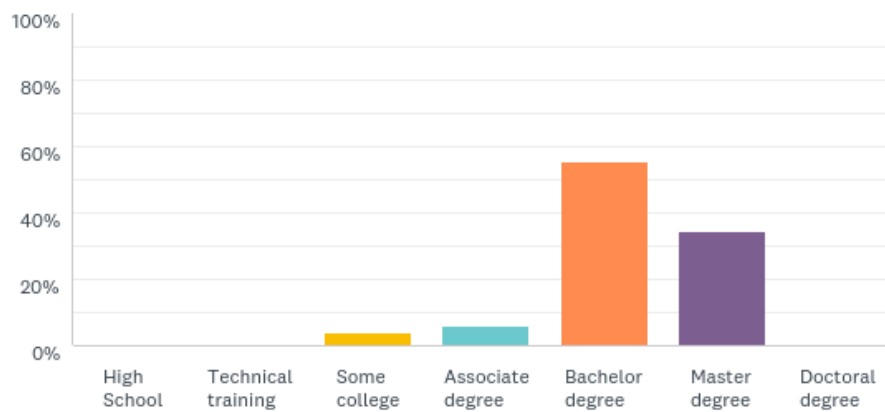
University Human Subjects Review Committee · Eastern Michigan University · 200 Boone Hall
Ypsilanti, Michigan 48197
Phone: 734.487.3090
E-mail: human.subjects@emich.edu
www.emich.edu/ord (see Research Compliance)

The EMU UHSRC complies with the Title 45 Code of Federal Regulations part 46 (45 CFR 46) under FWA00000050.

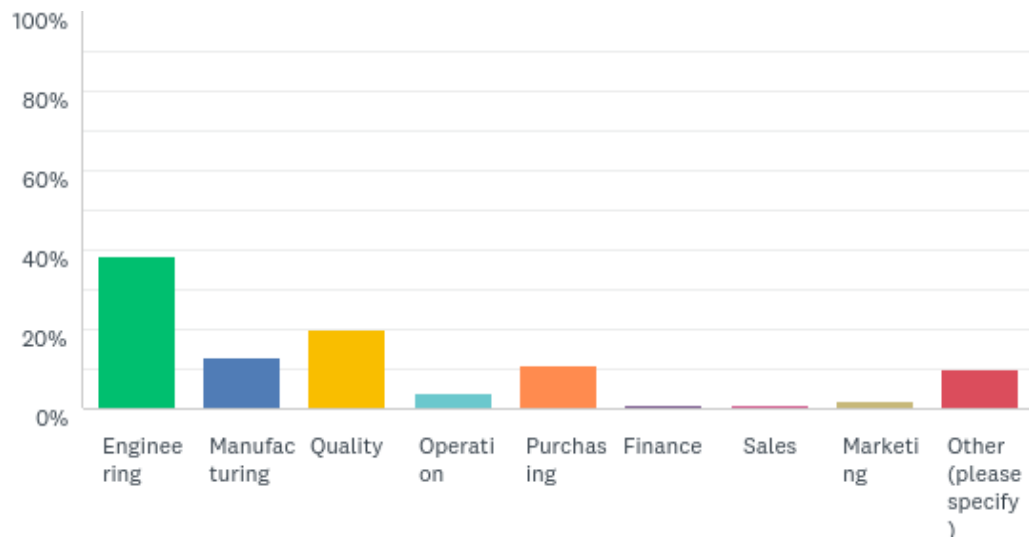
Appendix C: Item Level Frequency



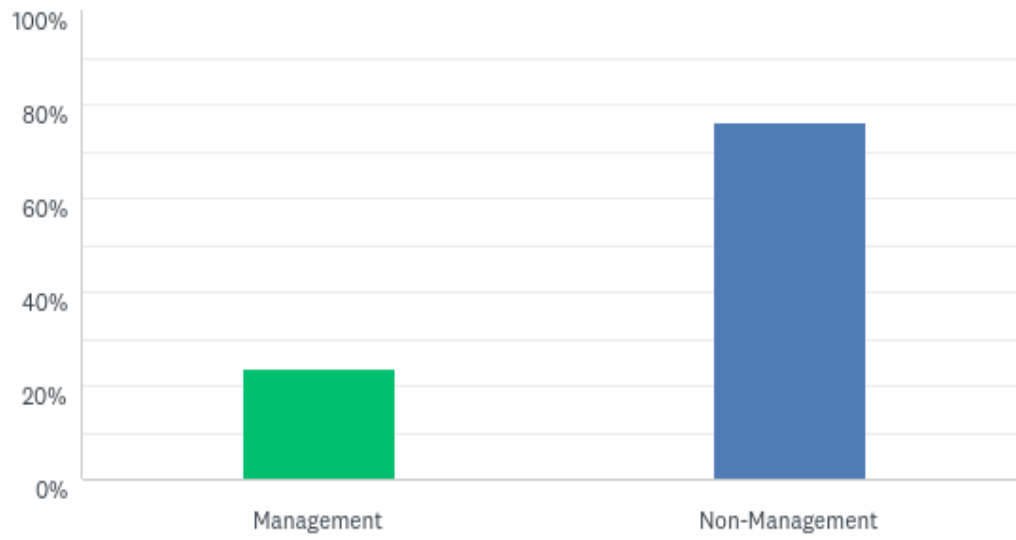
ANSWER CHOICES	RESPONSES	
Female	38.61%	39
Male	61.39%	62
TOTAL		101



ANSWER CHOICES	RESPONSES	
High School	0.00%	0
Technical training	0.00%	0
Some college	3.96%	4
Associate degree	5.94%	6
Bachelor degree	55.45%	56
Master degree	34.65%	35
Doctoral degree	0.00%	0
TOTAL		101



ANSWER CHOICES	RESPONSES	
Engineering	38.61%	39
Manufacturing	12.87%	13
Quality	19.80%	20
Operation	3.96%	4
Purchasing	10.89%	11
Finance	0.99%	1
Sales	0.99%	1
Marketing	1.98%	2
Other (please specify)	9.90%	10
TOTAL		101



ANSWER CHOICES	RESPONSES	
Management	23.76%	24
Non-Management	76.24%	77
TOTAL		101

Q7 Approvals and decisions at product development go through many channels.

Answered: 101 Skipped: 0



ANSWER CHOICES

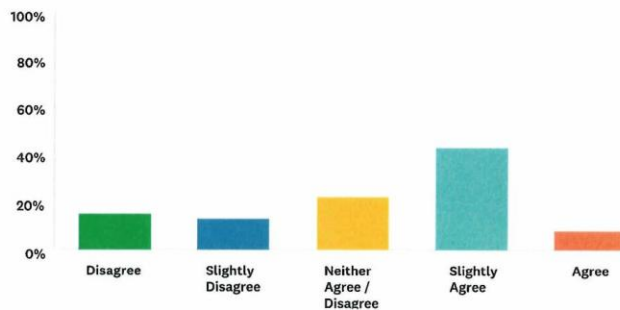
- Disagree
- Slightly Disagree
- Neither Agree /Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 0.00%
- 1.98%
- 2.97%
- 46.53%
- 48.51%

Q8 Management in this organization does not seek input and feedback from employees in the process of making important decision.

Answered: 101 Skipped: 0



ANSWER CHOICES

Disagree

Slightly Disagree

Neither Agree / Disagree

Slightly Agree

Agree

TOTAL

RESPONSES

14.85%

12.87%

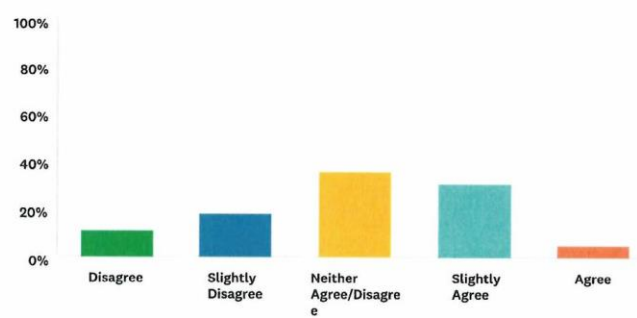
21.78%

42.57%

7.92%

Q9 Management does not seek input and feedback from employees especially on decision.

Answered: 101 Skipped: 0



ANSWER CHOICES

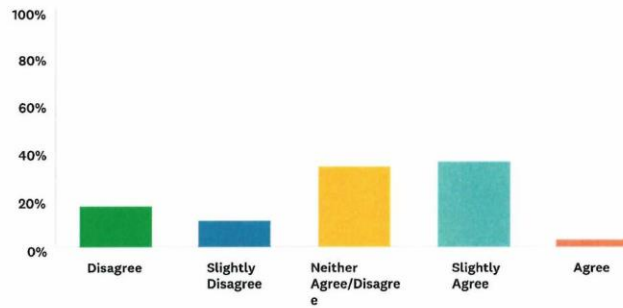
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 10.89%
- 17.82%
- 35.64%
- 30.69%
- 4.95%

Q10 Employees are not given the opportunities to be involved in decision-making.

Answered: 101 Skipped: 0



ANSWER CHOICES

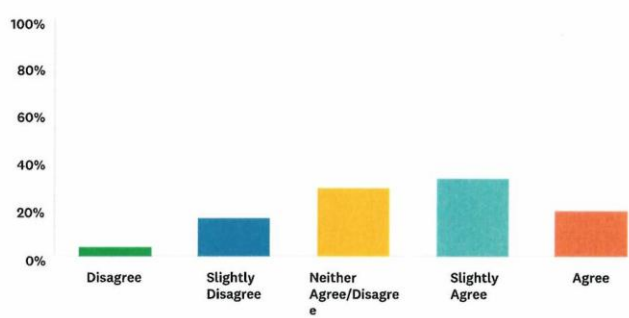
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 16.83%
- 10.89%
- 33.66%
- 35.64%
- 2.97%

Q11 Little action can be taken until a manager approves a decision.

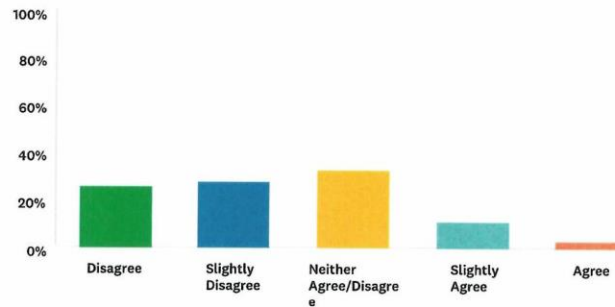
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	3.96%
Slightly Disagree	15.84%
Neither Agree/Disagree	28.71%
Slightly Agree	32.67%
Agree	18.81%
TOTAL	

Q12 I have to ask my boss before I do almost anything.

Answered: 101 Skipped: 0



ANSWER CHOICES

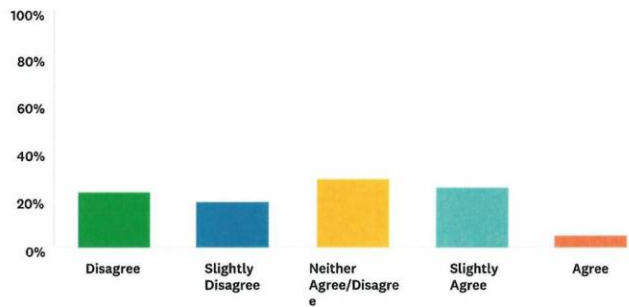
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 25.74%
- 27.72%
- 32.67%
- 10.89%
- 2.97%

Q13 Any decision I make has to have my Manager's approval.

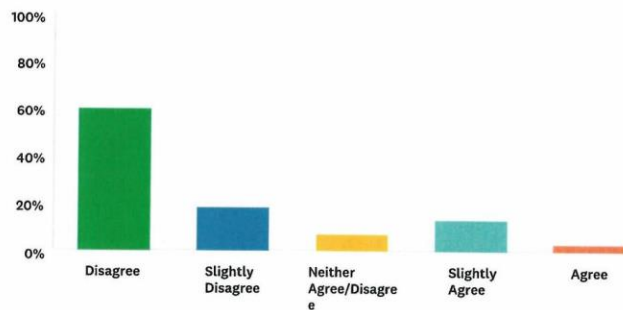
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	22.77%
Slightly Disagree	18.81%
Neither Agree/Disagree	28.71%
Slightly Agree	24.75%
Agree	4.95%
TOTAL	

Q14 My organization allows employees to deviate from the rules.

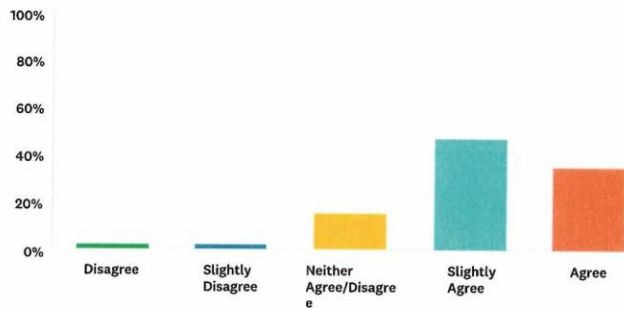
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	59.41%
Slightly Disagree	17.82%
Neither Agree/Disagree	6.93%
Slightly Agree	12.87%
Agree	2.97%
TOTAL	

Q15 My organization is characterized by many procedures.

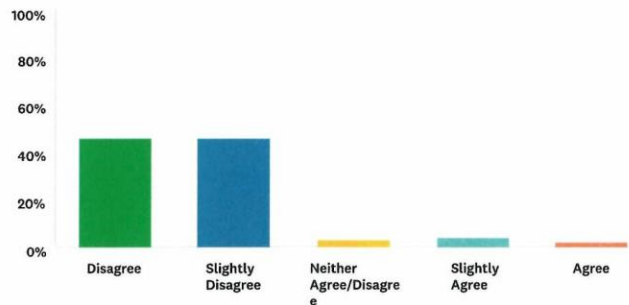
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	1.98%
Slightly Disagree	1.98%
Neither Agree/Disagree	14.85%
Slightly Agree	46.53%
Agree	34.65%
TOTAL	

Q16 Most employees pay little attention to policies and rules.

Answered: 101 Skipped: 0



ANSWER CHOICES

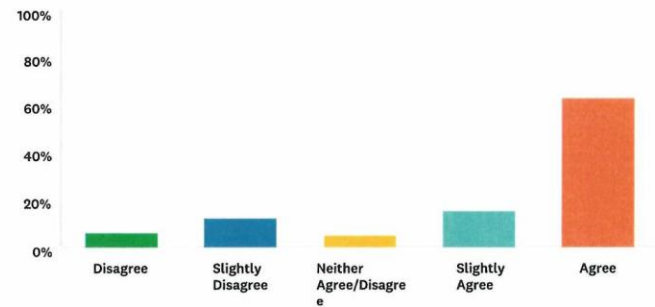
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 45.54%
- 45.54%
- 2.97%
- 3.96%
- 1.98%

Q17 It is expected that there will be no deviation from rules and policies.

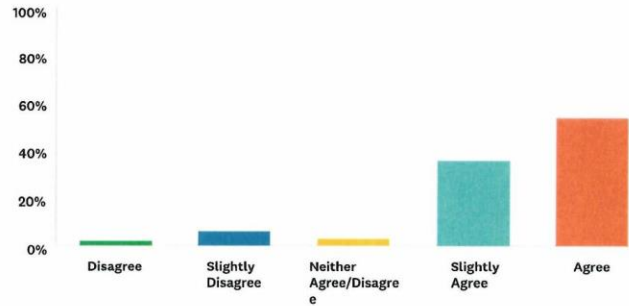
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	5.94%
Slightly Disagree	11.88%
Neither Agree/Disagree	4.95%
Slightly Agree	14.85%
Agree	62.38%
TOTAL	

Q18 Employees ask for permission before deviating from rules and policies.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree

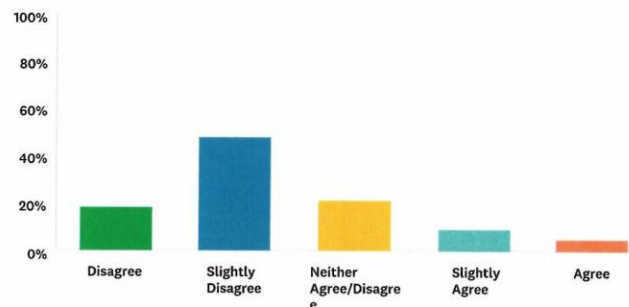
RESPONSES

- 1.98%
- 5.94%
- 2.97%
- 35.64%
- 53.47%

TOTAL

Q19 Employees are constantly being checked for rule violation.

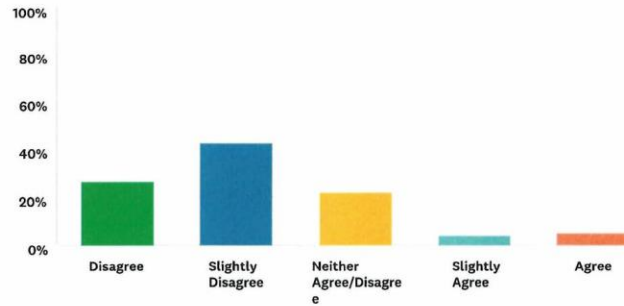
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	17.82%
Slightly Disagree	47.52%
Neither Agree/Disagree	20.79%
Slightly Agree	8.91%
Agree	4.95%
TOTAL	

Q20 I feel as though I am constantly being watched to see if I obey all the rules.

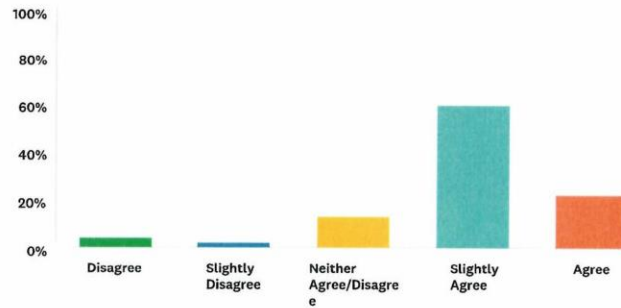
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	26.73%
Slightly Disagree	42.57%
Neither Agree/Disagree	21.78%
Slightly Agree	3.96%
Agree	4.95%
TOTAL	

Q21 Rules and procedures should be modified in order to achieve more effective product launch.

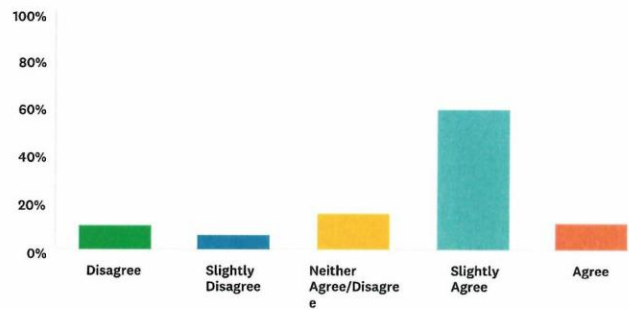
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	3.96%
Slightly Disagree	1.98%
Neither Agree/Disagree	12.87%
Slightly Agree	59.41%
Agree	21.78%
TOTAL	

Q22 Insistence on following written policies and procedures interfered with our ability to develop an effective product launch.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

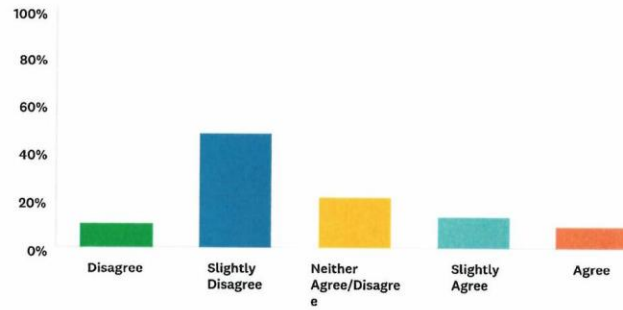
- 9.90%
- 5.94%
- 14.85%
- 58.42%
- 10.89%

Product Launch

SurveyMonkey

Q23 My organization has created techniques for obtaining the knowledge that is not written down by employees.

Answered: 101 Skipped: 0



ANSWER CHOICES

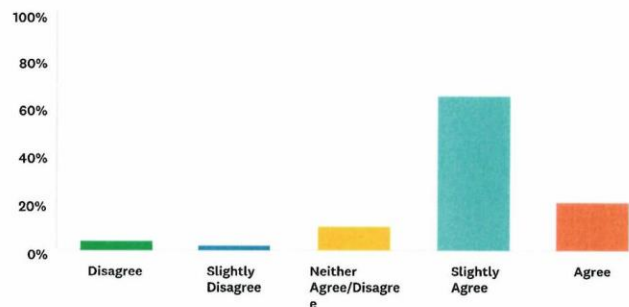
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 9.90%
- 47.52%
- 20.79%
- 12.87%
- 8.91%

Q24 My organization promotes and encourages sharing knowledge management among employees.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree

RESPONSES

- 3.96%
- 1.98%
- 9.90%
- 64.36%
- 19.80%

TOTAL

Q25 Team members benefit from each other's knowledge.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

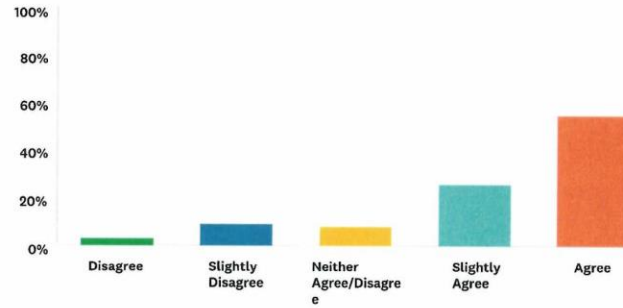
- 0.99%
- 0.99%
- 2.97%
- 48.51%
- 46.53%

Product Launch

SurveyMonkey

Q26 My organization uses internal tracking systems to capture lessons learned and product knowledge.

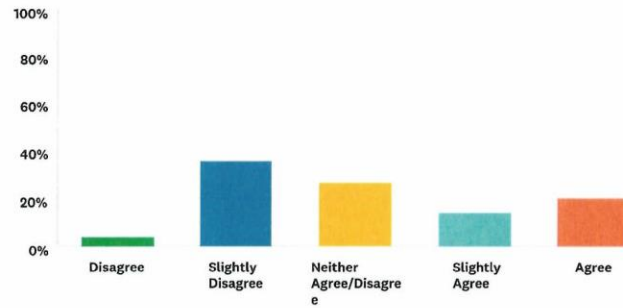
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	2.97%
Slightly Disagree	8.91%
Neither Agree/Disagree	7.92%
Slightly Agree	25.74%
Agree	54.46%
TOTAL	

Q27 Meetings are used as a tool to capture and document knowledge in my organization.

Answered: 101 Skipped: 0



ANSWER CHOICES

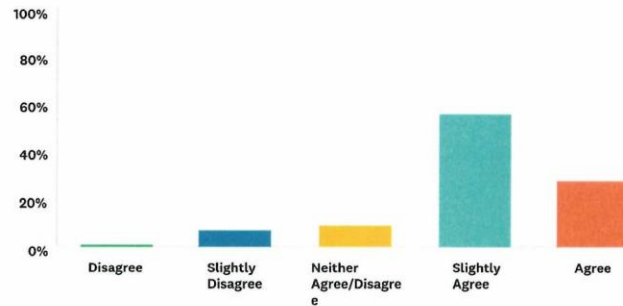
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 3.96%
- 35.64%
- 26.73%
- 13.86%
- 19.80%

Q28 You have effective communication with your supplier during the research and development process.

Answered: 101 Skipped: 0



ANSWER CHOICES

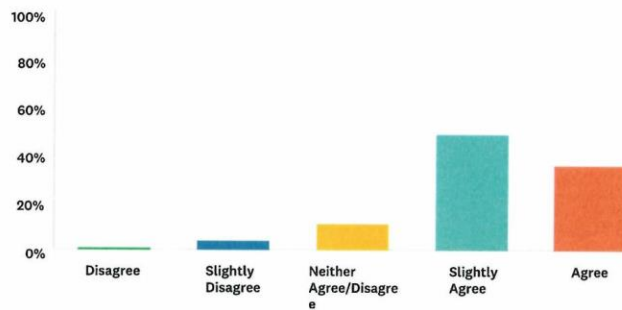
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 0.99%
- 6.93%
- 8.91%
- 55.45%
- 27.72%
- 100.00%

Q29 Technical Information is shared between you and your supplier.

Answered: 101 Skipped: 0



ANSWER CHOICES

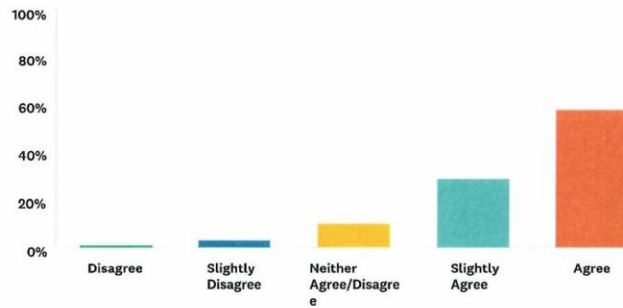
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 0.99%
- 3.96%
- 10.89%
- 48.51%
- 35.64%

Q30 You share your production schedule with your supplier on a regular basis.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree

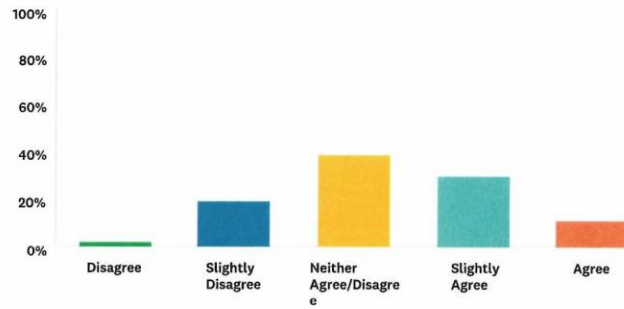
RESPONSES

- 0.99%
- 2.97%
- 9.90%
- 28.71%
- 57.43%

TOTAL

Q31 Your supplier is transparent when sharing information.

Answered: 101 Skipped: 0



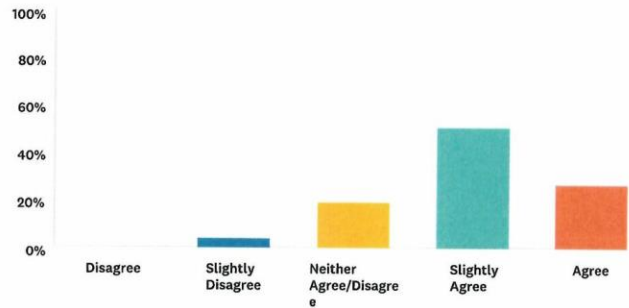
ANSWER CHOICES	RESPONSES
Disagree	1.98%
Slightly Disagree	18.81%
Neither Agree/Disagree	38.61%
Slightly Agree	29.70%
Agree	10.89%
TOTAL	

Product Launch

SurveyMonkey

Q32 There is collaboration with your supplier development programs.

Answered: 101 Skipped: 0



ANSWER CHOICES

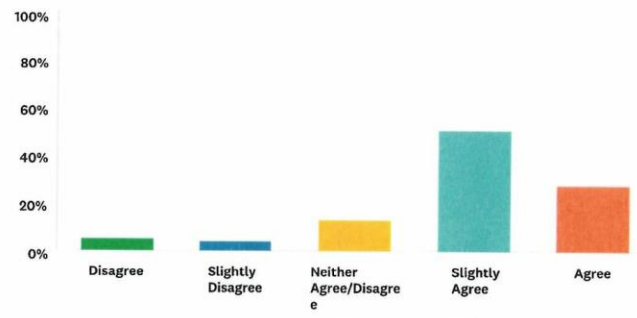
Disagree
Slightly Disagree
Neither Agree/Disagree
Slightly Agree
Agree
TOTAL

RESPONSES

0.00%
3.96%
18.81%
50.50%
26.73%

Q33 Your suppliers participate in all of your product development meetings.

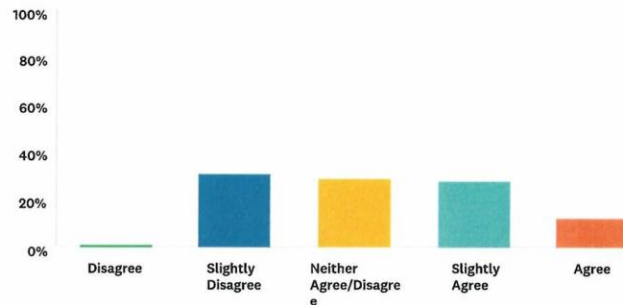
Answered: 101 Skipped: 0



ANSWER CHOICES	RESPONSES
Disagree	4.95%
Slightly Disagree	3.96%
Neither Agree/Disagree	12.87%
Slightly Agree	50.50%
Agree	27.72%
TOTAL	

Q34 Your suppliers show a sense of urgency when issues arise.

Answered: 101 Skipped: 0



ANSWER CHOICES

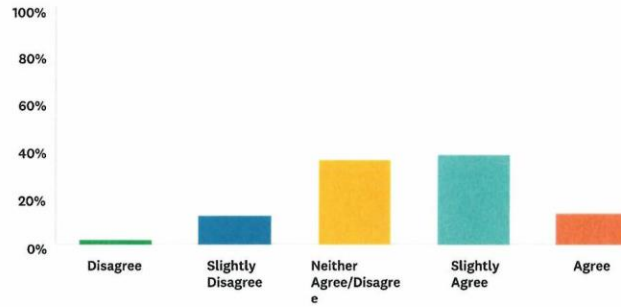
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 0.99%
- 30.69%
- 28.71%
- 27.72%
- 11.88%

Q35 In my organization product launches are typically on time .

Answered: 101 Skipped: 0



ANSWER CHOICES

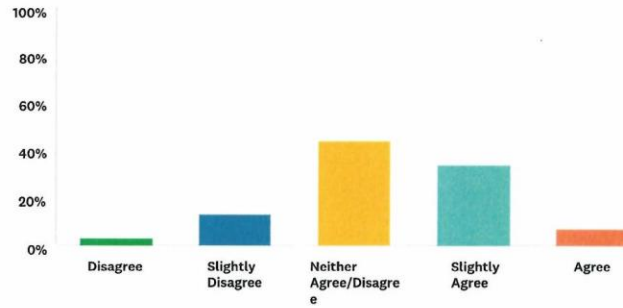
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 1.98%
- 11.88%
- 35.64%
- 37.62%
- 12.87%

Q36 Product development cost is typically within budget for my department.

Answered: 101 Skipped: 0



ANSWER CHOICES

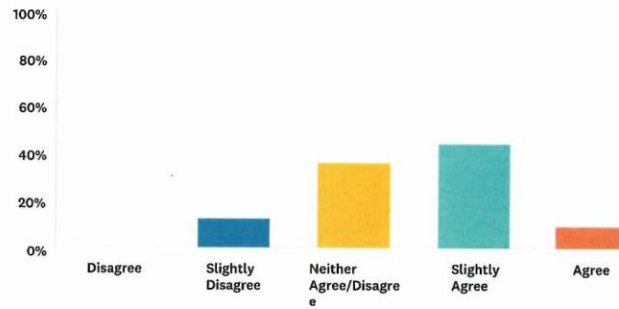
- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree
- TOTAL

RESPONSES

- 2.97%
- 12.87%
- 43.56%
- 33.66%
- 6.93%

Q37 Typically launch quality metrics are met.

Answered: 101 Skipped: 0



ANSWER CHOICES

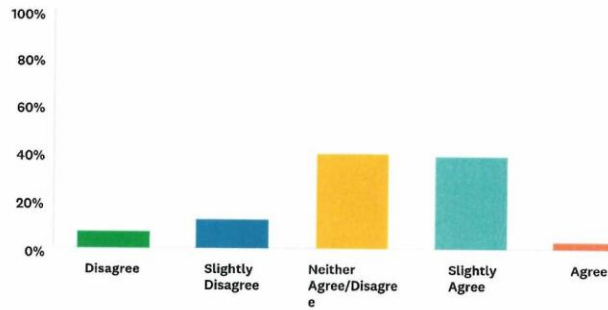
Disagree
Slightly Disagree
Neither Agree/Disagree
Slightly Agree
Agree
TOTAL

RESPONSES

0.00%
11.88%
35.64%
43.56%
8.91%

Q38 On average, there are no major launch issues prior to launch deadline date.

Answered: 101 Skipped: 0



ANSWER CHOICES

- Disagree
- Slightly Disagree
- Neither Agree/Disagree
- Slightly Agree
- Agree

RESPONSES

- 6.93%
- 11.88%
- 39.60%
- 38.61%
- 2.97%

TOTAL