

A Comparative Study of Project Organisation Structure and Problems Faced during New Product Development by Tier 1 and Tier 2 Suppliers in Indian Automotive Sector

¹Mr. Sandeep L. Waykole, ²Dr. Mahesh R. Deshpande, ³Dr. Manasi Bhate

¹Research Scholar (MIT ADT University, Pune (India))

²Research Guide (Dean-SWIE-MIT ADT University, Pune (India))

³Research Co Guide (Associate Professor, IMCC, Pune (India))

Abstract: In India, the demands for vehicles have extended dramatically over the past two and a half decades. Numerous vehicle manufacturers around the world and Tier-1 suppliers have effectively set up offices in India for research, improvement and assembly. The Indian automotive part sector started to update Lean methods to meet these customers' interests. The automobile segment is the main player in the global and Indian economies. The comprehensive motor car sector (four-wheelers) legally contributes 5% to the complete assembly job, 12.9% to the all-out assembly creation esteem and 8.3% to the all-out contemporary undertaking. It also provides \$560 billion to different nations' open income in terms of fuel, flow, deals and enlistment charges. The global automotive industry's annual turnover is around US\$ 5.09 trillion, which is equal to the planet's sixth-largest economy. Likewise, the vehicle business is linked to a few different divisions in the economy, and hence its backhanded commitment is much higher than that. Plastic Interiors Tier 1 and Tier 2 Suppliers This paper aims to identify problems faced by Top 3 Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during the development of new products in addition to examining and categorizing problems in Top 3 Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during the development of new products along with Top 3 Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers and Gap Analysis of Project Organization Structure for New Product Advancement in Top 3 Indian and International Plastic Interiors Tier 1 and Tier 2 Suppliers

Keywords: Global value chains, factors affecting participation, automobile industry, organization of production, localization, Innovation Systems, R&D.

1. INTRODUCTION

India needs to evolve as the world's third-largest passenger vehicle market by 2021. It took India about seven years to construct 4,000,000 vehicles out of three million annually. However, the following achievement—5,000,000—is normal in less than five years. Hitting that mark will depend on the current fast-paced currency advancement process, with an expected annual GDP growth rate of 7% by 2020, ongoing urbanization, a prosperous devouring class, and powerful rules and policies. With this growth at the top of the priority list, we set out to produce a point of perspective on the trends forming the Indian market, the motivation for the vehicle company in India, and the objectives for gaining on the market. Currently, the vehicle region adds more than 7% to India's GDP.⁴ The 2016–26 Automotive Mission Plan sets an objective of expanding the commitment to 12%.

Different economic patterns could assist in achieving this goal. Rapid urbanization means that by 2030, the country will have more than 500 million people residing in urban communities—the current U.S. population will have 1.5 occasions.

Increasing wages will also take on a job as around 60 million households could join the expenditure category by 2025 (defined as households with more prominent livelihoods than \$8,000 per year). At the same time, more people are going to enter the workforce. Cooperation could reach 67 per cent by 2020, with more women and youth advertising entering the activity, increasing interest in portability.

Some of them would jump directly into a four-wheeler fragment, while others would move from two to four-wheelers. More than 44 per cent of the expenditure category households will be in 49 development groups— for example, Delhi is dependent on having a comparable GDP for each capita to achieve energy equality as the whole country of Russia in 2025.6 Cities like Delhi are a sweet place for automotive manufacturers to target. Small-scale automobiles and hatchback vehicles were the cornerstones of India's vehicle company, offering around 50 per cent and 6 to 7 per cent growth between 2014 and 2017 budget years. These parts will continue to maintain an overwhelming position, but most of the growth is based on fresh pieces such as minimized SUVs, cars, and extravagant automobiles.

2. LITERATURE REVIEW

The new thing progression (NDP) is a technique in which another thing is started to complete a movement of steps such as organizing, arranging, improving, and displaying (Margaret Rouse, 2018). The NDP operations are carried out through the partnership to carry on with the methodology of enhancement and to update the association's display to rare states (Urban and Hauser, 1993) (Ulrich and Eppinger, 2011). The NPD expects a remarkable activity in the fundamental enhancement of the division of labor, economy, and provides fundamental mechanical degrees of advancement to elevate ways of life. Tata Motors, for instance, dispatches another TAMO vehicle in the vehicle part of the games. The vehicle has gained a manageable market and is giving various games vehicle models such as Audi R8 LMX an extraordinary battle. Likewise, Tata Motors can manufacture its share of the general business and exponentially develop its customer base (KetanThakkar,2017).

In any event, as a consequence of high loss rates of 25% to 45% in the NPD scheme, it is considered to be a risky effort started by the association because different new things are not quickly recognized by the customers (Crawford, 1987) (Cooper, 2001). In order to create new things, the associations place exclusively assets in the inventive job methods so fresh power. Regardless, about 4 factors go into the execution and enhancement phase in every 7 fresh thing musings started by the organizations and only 1 or half come into the last scheme and get driven. Moreover, the speed of achievement of such new things is less, which has an adverse effect on the association that places assets in improving new stuff (Booz, Allen and Hamilton, 1982).

In this way, NPD is seen as the most risky and twisting development executed by the association. Likewise, the production of new things requires a portion of the strategy like organizing, facilitating, allocating resources, and so on which requires assumption at each stage. In any event, in examining or acquiring things that are either dropped or not used in the real age phase, 46 percent of the assets are lost due to powerlessness in the thing progress process. Hereafter, collecting actions such as assessment, testing, taking care of and improving the NPD through social affair material substances about the new thing disclosure is critical so that productive movement of the new thing is achieved on the market (Booz, Allen and Hamilton, 1982).

To construct a central point around the executives accepted, it is a strategy through which the association's advantages are planned, coordinated and dealt with in order to accomplish a specific mission or perform any job (OLIVIA LABARRE, 2019). The undertaking of the board activities is coordinated in order to achieve explicit goals in order to address as necessities the pre-described articles set by the affiliation. Nevertheless, the key test that is anticipated to accomplish the job of loading up locations is the time goals in view of the manner in which numerous supervisory organizations are not ready to accomplish the assignment within the time period prescribed. Quality and expense factors are various issues that the meeting looks at (Joseph Phillips, 2003). In addition, the people (adventure boss, originators, authoritative specialists, and sub-impermanent workers) associated with the project are looking at the budgetary issues such as redesigning the assignment and use of benefits to complete the project. Various undertakings complete the executives' project to express the association's needs and can be associated with any expansion. For example, in the advancement company, adventure board development is completed to produce productive motion of things, such as roads, ranges (Wilmot, Hocker, Arthur, Petty, Martocchio, Cheeseman and Rosania, 2007).

In addition, it redesigns the workers ' characteristics and makes them orchestrated and confirmed. The management improvement undertaking is also performed by IT experts to bring things and associations forward, while the board's

biotechnology experience is performed by the Biotechnology masters ' Research and Development (R&D). Executives of the project handling different assignments ensure that the work is finished with the quality models pre-picked, contributing arrangement and energy plan (Esselink, 2000). Thus, the project managers use distinct approaches such as Board affirmation Benefits (BRM) to accomplish the doled out effort to attain the set goal. The scheme enables reduce the risk and establishes a match scheme between the errand and the lawful policies (Serra and Kunc, 2015).

Furthermore, the chairmen are using the Critical Chain Adventure Board (CCPM) method to structure and orchestrate the various duties by addressing the faults of errand. For instance, Indian EPC Company is satisfactorily grasping Critical Chain Adventure Administrators (CCPM), which is a bit of the Tata social opportunity to reduce lead times. Using the CCPM permits the advancement association to reduce expenditure, enhance quality, and plan to move more efforts with a relative percentage of benefits. Similarly, within 9 months of the procedure meeting, EPC reported an increase of 75 per cent in the benefit rates (Ehab Shallaby, 2015).

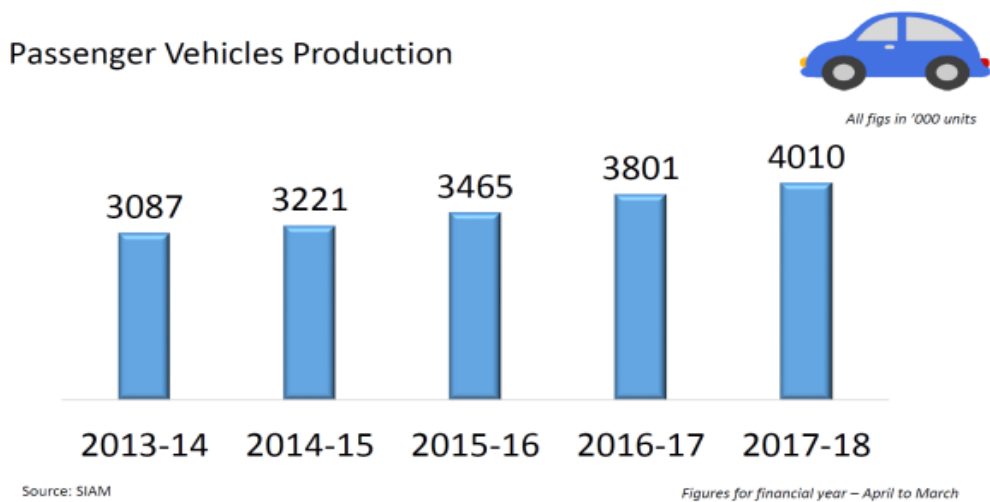
The NPD procedure includes various stages such as perceiving shoppers ' needs, setting up conceptualization of items, making a point-by-point statement of items, planning, testing and promoting the item by the Tier 1 and Tier 2 providers ' organization for marketing purposes. Each stage of the NPD operation needs to study exercises, progress, motorization, and various processes. Besides, it is also essential that the individuals associated with the Item Advancement Procedure should impart, work together and fill in as a group to achieve the new Item (Kazimierska and Grębosz-Krawczyk, 2017). Each stage of the NPD operation needs to study exercises, progress, motorization, and various processes. Furthermore, it is also essential that the people connected with the Item Advancement Procedure should impart, work together and fill in as a team to achieve the new Item (Kazimierska and Grębosz-Krawczyk, 2017). In this way, the scheme of Stage-Gate's most well-known use NPD procedure is adopted by Tier 1 suppliers, and Tier 2 suppliers are to develop fresh products (Cooper and Kleinschmidt, 1994). Fundamentally, the method includes the vibrant collaboration of all the NPD venture peers with the objective of making important choices by keeping a strategic distance from oversights (Goffin and Micheli, 2010). It also ensures that proper administration practice is established with the objective of properly growing links between the NPD venture people with large authority rehearsals. Furthermore, the conduct of the NPD procedure involves a few stages, so it is essential to handle the entire procedure in a viable manner so that there is no dispute between the different functionaries. The method also includes client requirements and innovation thinking so that the fresh product is produced by the company peers in Tier 1 and Tier 2 suppliers organization with the predefined time period (Barczak and Wilemon, 1989), (Cooper, 2009), (Riek, 2001). It also ensures that reasonable administration practice is established with the goal of properly growing connections between the NPD project individuals with large authority. Furthermore, the conduct of the NPD procedure includes a few phases, so it is important to handle the entire procedure in a viable manner so that there is no dispute between the different functionaries. The method also includes client requirements and innovation thinking so that the fresh product is produced by the company peers in Tier 1 and Tier 2 suppliers organization with the predefined time period (Barczak and Wilemon, 1989), (Cooper, 2009), (Riek, 2001). Over the past few years, the new product enhancement activities have picked up energy, and the innovation-enabled organizations bring countless advances. For example, Naukri, Ola, MakeMyTrip's presentation is a portion of the dispatches made by the IT experts who have been productive and received high recognition from the individuals. It encouraged the speculators to put the funds into the projects of enhancement that energize the professionals and the organization of Tier 1 and Tier 2 suppliers to direct the NPD procedure. According to the research conducted by Venture Intelligence, from 2008-2017, 74 NPD was submitted in the Indian Markets by contributing \$681 million to earn \$4 billion in advantages (ET CONTRIBUTORS, 2018). Nonetheless, while bringing the fresh produce to the market, the Tier 1 and Tier 2 suppliers organization also face marketing difficulties. The buyers ' acknowledgement of the fresh products does not take place immediately, and it takes time to collect the new item effectively (Patel, Modha, Patel and Patel, 2014). From now on, it is essential that the start of new products must be achieved by considering the preferences of the customer. In the third phase, the execution method enters into the structure, which mainly includes the execution of the agreement and the management of the objectives that have been achieved up to this point. During this stage, the chores are allocated to the workers and the exercises of lead checking by using the managerial equipment such as the dashboard project. Checking and monitoring are performed in the following phase to break down the job presentation by inspecting the price, risk, and nature of the new Tier 1 and Tier 2 Suppliers Company improvements. In conclusion, by administering the scope of the project, the end of the project is accomplished in the last phase. The people of the enterprise break down whether each part of the undertaking, such as outstanding agreements, administrative work and paperwork, is carried out in a viable manner (William Malsam, 2018). In addition, Tier 1 and Tier 2 suppliers have also adopted appropriate IoT-driven item enhancement practices. The various intrusions looked at by the vehicle company recognized with versatility

and vehicle-to-vehicle (V2V) interaction are efficiently performed due to the presentation of new developments. It can then be said very well that Tier 1 and Tier 2 suppliers are laying a remarkable task in obtaining the vehicle company new developments (Krishnan and Jha, 2011).

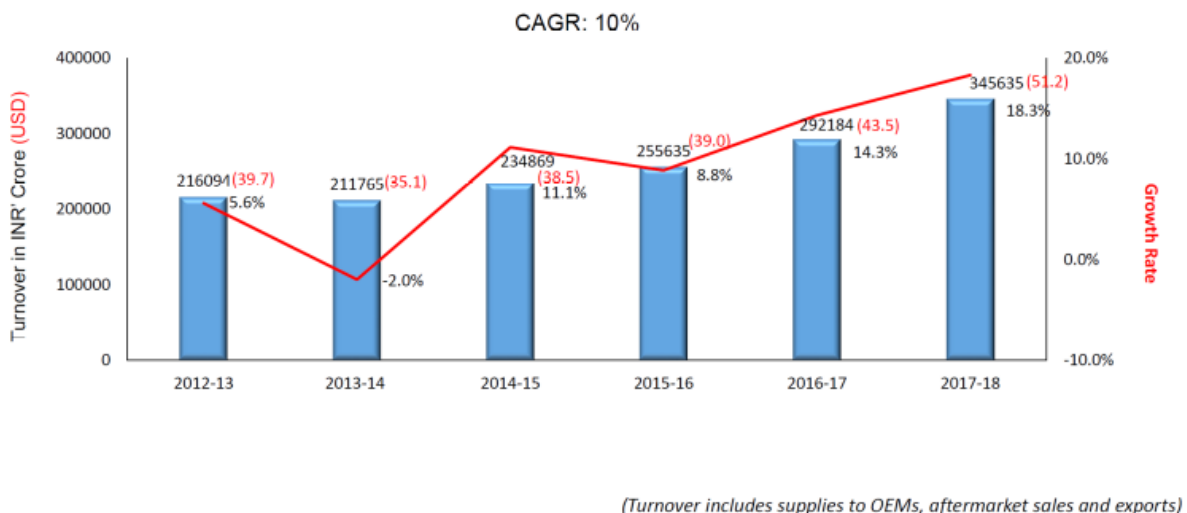
3. NPD PROCESS IN AUTO COMPONENT INDUSTRY AND CURRENT ORGANIZATION STRUCTURE FOR NPD

Production

The industry produced a total 30,915,420 vehicles including passenger vehicles, commercial vehicles, three wheelers, two wheelers and quadricycle in April-March 2019 as against 29,094,447 in April-March 2018, registering a growth of 6.26 percent over the same period last year.



Turnover – Auto Component Industry: 2017-18



4. DOMESTIC SALES

Passenger Vehicle sales rose by 2.70 per cent over the same period last year in April-March 2019. Within passenger vehicles, Passenger Cars, Utility Vehicle & Vans sales increased by 2.05 per cent, 2.08 per cent and 13.10 per cent respectively over the same period last year in April-March 2019.

In April-March 2019, the general section of commercial vehicles recorded an increase of 17.55 per cent compared to the same span last year. Medium & Heavy Commercial Vehicles (M&HCVs) risen 14.66% and Light Commercial Vehicles increased 19.46% over the same period last year in April-March 2019.

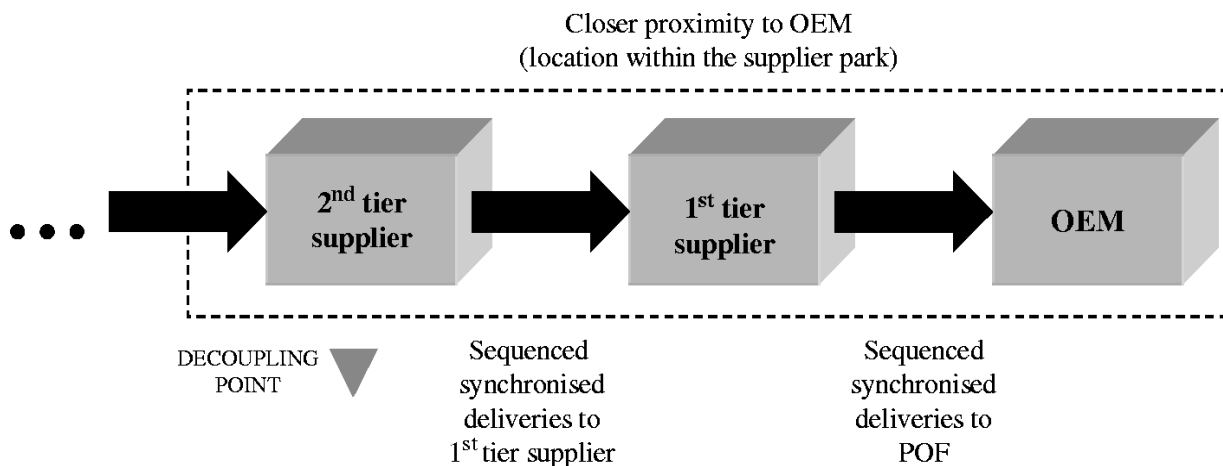
In April-March 2019, two Wheelers sales recorded the development of 4.86 per cent over April-March 2018. Scooters decreased by-) (0.27 per cent in the Two Wheelers segment, while Motorcycles and Mopeds increased by 7.76 per cent and 2.41 per cent in April-March 2019 over April-March 2018, respectively.

5. EXPORTS

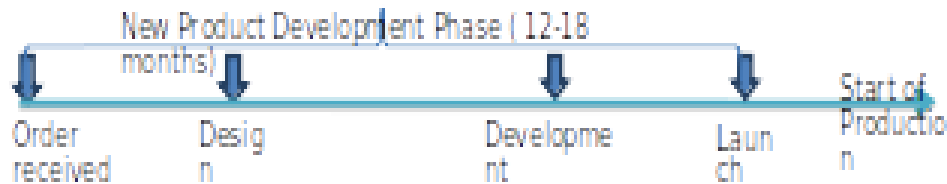
Overall automobile exports rose by 14.50 per cent in April-March 2019. While exports of passenger vehicles decreased by-) (9.64%, Commercial Vehicles, Three Wheelers and Two Wheelers recorded the development of 3.17%, 49.00% and 16.55% respectively over the same period last year in April-March 2019.

The Indian Car Manufacturing industry is also known as Original Equipment Manufacturers (OEM). The manufacturing industry is expected to increase its export volumes by 20%. The companies are making ties and supplying equipment to the developed countries such as Europe & America. Hence, the demand for quality goods and development of the new product in the specified time is necessary for the Tier 1 suppliers so that new OEMs will be able to provide quality services to the clients effectively. On the other hand, to meet the demand of the OEMs the Tier 1 suppliers have to manage and develop their ties with Tier 2 Suppliers so that supply chain of new product and resources will be met adequately.

The Indian Car Manufacturing industry is also known as Original Equipment Manufacturers (OEM). The manufacturing industry is expected to increase its export volumes by 20%. The companies are making ties and supplying types of equipment to developed countries such as Europe & America. Hence, the demand for quality goods and development of the new product in the specified time is necessary for the Tier 1 suppliers so that new OEMs will be able to provide quality services to the clients effectively. On the other hand, to meet the demand of the OEMs the Tier 1 suppliers have to manage and develop their ties with Tier 2 Suppliers so that supply chain of new product and resources will be met adequately.



Nonetheless, it has been reported that 20 percent of the activities begun by the Indian Automobile OEM do not fulfill the undertakings ' prerequisites to complete on timetable. Then again, the operations that have lately begun are also brief on expenditure that expands from the recommended norms. Because of the recent invasion of consummation and extended costs, the OEM is facing difficulties. Similarly, OEMs ' strong dependence on Tier 1 and Tier 2 suppliers to complete the exercises identified with New Product Development is extremely responsible for the disappointment in the OEMs ' presentation. It also includes the inadequate risk arrangement and proximity of high-risk variables in the New Product Development by Tier 1 and Tier 2 suppliers. It is now essential that the OEMs and the Tier 1 and Tier 2 suppliers in the Indian Automotive industry take suitable action by arranging the acquired asset. In the OEMs, it will assist satisfy customer wishes with reduced expenses. Furthermore, in order to satisfy the growing requirements of the automotive industry, it is vital that the suppliers of Tier 1 and Tier 2 take on more tasks in the development of fresh products and offer fresh products to the company.



The current review will differentiate the difficulties facing Indian Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers when leading the OEM's New Product Development venture. The inquiry will also suggest fresh useful ideas and adequately receive significant upgrades to the Project Management System's work and planning.

The NPD method includes multiple stages such as the recognition of consumer needs, the establishment of product conceptualization, the creation of a comprehensive product proposition, the design, testing and advertising by the Tier 1 and Tier 2 suppliers corporation for marketing purposes. Every phase of the NPD process needs study operations to be conducted, promoted, mechanized, and other procedures. In addition, it is also crucial that the individuals engaged in the phase of product growth should interact, cooperate and work as a team for the fresh product's achievement (Kazimierska & Grębosz-Krawczyk, 2017). The most prevalent use of the Stage-Gate NPD method is therefore the methodology taken by Tier 1 providers and Tier 2 is the development of fresh products (Cooper & Kleinschmidt, 1994). The methodology primarily involves the active involvement of all team members in the NPD project in order to make key decisions by avoiding oversights (Goffin & Micheli, 2010). It also guarantees clear management procedures are established in order to correctly develop excellent leadership habits, interactions between the employees of the NPD project. In addition, conducting the NPD process includes several phases, so it is essential to efficiently handle the entire process so that there is no conflict between the various functionaries. The method also involves consideration of consumer needs and technology so that the project team members in Tier 1 and Tier 2 suppliers corporation develop the fresh item with the defined time frame (Barczak & Wilemon, 1989), (Cooper, 2009), (Riek, 2001). Over the previous three years, new product development activities have acquired momentum and technology-enabled businesses are bringing many innovations. The introduction of Naukri, Ola, MakeMyTrip, for example, are some of the launches made by IT professionals who have been successful and have received high acceptance from people. It urged investors to invest in development initiatives that would encourage experts and vendors from Tier 1 and Tier 2 to perform the NPD process. According to the study undertaken by Venture Intelligence, from 2008-2017, 74 NPD was implemented in Indian Markets by spending \$681 million to earn \$4 billion worth of revenues (ET CONTRIBUTORS, 2018). However, the providers of Tier 1 and Tier 2 also face marketing difficulties while marketing the fresh item. Consumers' adoption of the new products does not take place immediately and it takes time for the fresh item to be successfully received (Patel, Modha, Patel & Patel, 2014). It is therefore essential to implement the launch of fresh products by maintaining customer preferences in mind.

Making the executives procedure center around the assignment; it mostly involves five stages that are beginning, arranging, executing, observing, controlling, and shutting. The start-up procedure is known as the starting approach in which the job estimate is resolved. In this regard, the business case and the study of possibility are carried out in order to know the undertaker's reason and set of objectives. At this stage, all the vital considerations of life resources, expenditure plan, human capital, time period and need are regarded in order to acknowledge the intention of the undertaking in Tier 1 and Tier 2 Suppliers Company by people. In the next phase, the arrangement procedure is updated by amassing the group of undertakings so that the fixed goals are achieved within the required moment. Various components such as degree, definition, tasks, schedule, price, quality, authoritative and parameters of employees are integrated at this point. It also involves connections, risk evaluation, and acquisition with the objective of considering each parameter before proceeding the following procedure. The execution procedure falls into shape in the third organize, which fundamentally involves executing the agreement and administering the policies that have been executed since not long ago. During this point, by using project board apparatuses such as undertaking dashboard, the errands are handed out to the workers and lead checking exercises. By checking the price, danger, and nature of the fresh advances Tier 1 and Tier 2 Suppliers Company, observation and control is performed in the following phase to break down the presentation of the project. In conclusion, the end of the project is completed in the last organize by administering the scope of the assignment. The venture people explore whether each part of the assignment, such as outstanding agreements, administrative work and paperwork, is effectively completed (William Malsam, 2018).

6. ROLE OF TIER 1 AND TIER 2 SUPPLIERS

Providers take on a remarkable task in providing administrations to car companies through their products and supplies that help guide organizations that manage and enhance NPD into organizations. Additionally, the suppliers go to the car company as a critical source of information contributor, advocate, and exchange loan banks. Similarly, the suppliers keep a watch on the advances that take place far and wide and make them viable acquainted with the car company. Also, innovative global progress has restricted organizations and associations around the globe to create new products to meet the evolving needs of buyers. In setting up the car company, many notable changes are taking place in this sector through new item advancement operations to give buyers new products according to their requirements. In this respect, Tier 1 and Tier 2 Suppliers are finishing the innovation range to provide the vehicle with company-new headways like a jolt. The automaker, Tier 1 and Tier 2 suppliers, for example, are conducting exams and discovering the choice for the Li-particle battery used in EVs such as the battery swapping element.

Moreover, new technology has enabled countless new product designers such as Apple and Google, to enter the automotive industry. Administrations such as infotainment products, CarPlay assist the suppliers of Tier 1 and Tier 2 in strengthening the current capabilities with the organization's vision. It enables the suppliers of Tier 1 and Tier 2 to integrate fresh dimensions into the board portfolio product. The car companies are, therefore shifting their assembly approaches step by step from re-appropriating the perfect designs to the manufacturing provisions for the Manufacturing Design Model (DFM). It helps in the reassignment of commitments to the suppliers of Tier 1 and Tier 2 to reduce the overhead costs looked at by the vehicle organizations.

Moreover, the automotive assembly organizations are also establishing cooperation with Tier 1 and Tier 2 suppliers and various OEMs so that the sharing of advances is carried out viable for the economies of scale era. For example, car organizations such as Ford India and Mahindra and Mahindra have established an affiliation with Tier 1 and Tier 2 suppliers and offer vehicle design to procure and use the designation scheme efficiently. Also, organizations such as Nissan and Renault have established alliances with Tier 1 and Tier 2 suppliers to make effective upgrades to their present aggressive rankings. Also, Tier 1 and Tier 2 suppliers have obtained additional IoT-driven Item advancement methods that will be adequately performed. The various intrusions looked at by the vehicle company recognized with versatility and vehicle-to-vehicle (V2V) interaction are efficiently performed due to the presentation of fresh advances. Therefore, it tends to be said that the suppliers of Tier 1 and Tier 2 lay a remarkable task in bringing the automobile company new trends (Krishnan and Jha, 2011). Also, when Tier 1 and Tier 2 suppliers employable in the Indian Automotive Area start the new item development causes authoritative specific tasks or money linked in nature. Level 1 and Tier 2 suppliers also guarantee additional multiplication of advertising and deals at the beginning of the new item advancement exercises in the associations ' work.

7. PROBLEM STATEMENT

Providers take on a remarkable task in providing administrations to car companies through their products and supplies that help guide organizations that manage and enhance NPD into organizations. Additionally, the suppliers go to the car company as a critical source of information contributor, advocate, and exchange loan banks. Similarly, the suppliers keep a watch on the advances that take place far and wide and make them viable acquainted with the car company. Also, innovative global progress has restricted organizations and associations around the globe to create new products to meet the evolving needs of buyers. In setting up the car company, many notable changes are taking place in this sector through new item advancement operations to give buyers new products according to their requirements. In this respect, Tier 1 and Tier 2 Suppliers are finishing the innovation range to provide the vehicle with company-new headways like a jolt. The automaker, Tier 1 and Tier 2 suppliers, for example, are conducting exams and discovering the choice for the Li-particle battery used in EVs such as the battery swapping element.

Moreover, new technology has enabled countless new product designers such as Apple and Google, to enter the automotive industry. Administrations such as infotainment products, CarPlay assist the suppliers of Tier 1 and Tier 2 in strengthening the current capabilities with the organization's vision. It enables the suppliers of Tier 1 and Tier 2 to integrate fresh dimensions into the board portfolio product. The car companies are, therefore shifting their assembly approaches step by step from re-appropriating the perfect designs to the manufacturing provisions for the Manufacturing Design Model (DFM). It helps in the reassignment of commitments to the suppliers of Tier 1 and Tier 2 to reduce the overhead costs looked at by the vehicle organizations.

Moreover, the automotive assembly organizations are also establishing cooperation with Tier 1 and Tier 2 suppliers and various OEMs so that the sharing of advances is carried out viable for the economies of scale era. For example, car organizations such as Ford India and Mahindra and Mahindra have established an affiliation with Tier 1 and Tier 2 suppliers and offer vehicle design to procure and use the designation scheme efficiently. Also, organizations such as Nissan and Renault have established alliances with Tier 1 and Tier 2 suppliers to make effective upgrades to their present aggressive rankings. Also, Tier 1 and Tier 2 suppliers have obtained additional IoT-driven Item advancement methods that will be adequately performed. The various intrusions looked at by the vehicle company recognized with versatility and vehicle-to-vehicle (V2V) interaction are efficiently performed due to the presentation of fresh advances. Therefore, it tends to be said that the suppliers of Tier 1 and Tier 2 lay a remarkable task in bringing the automobile company new trends (Krishnan and Jha, 2011). Also, when Tier 1 and Tier 2 suppliers employable in the Indian Automotive Area start the new item development causes authoritative specific tasks or money linked in nature. Level 1 and Tier 2 suppliers also guarantee additional multiplication of advertising and deals at the beginning of the new item advancement exercises in the associations ' work.

8. AIMS AND OBJECTIVES

The main aim of the study is to make a comparative study of Project Organisation Structure and Problems Faced during New Product Development by Tier 1 and Tier 2 Suppliers in Indian Automotive Sector. In addition to this, other objectives are as follows:

- Identify Problems Faced by Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during New Product Development.
- Analyze and Categorise the Problems in Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during New Product Development.
- Study the Project Organisation Structure for New Product development in Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers.
- Gap Analysis of Project Organisation Structure for New Product development in Indian and International Plastic Interiors Tier 1 and Tier 2 Suppliers.

9. RESEARCH QUESTIONS

- What are the Problems Faced by Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during New Product Development?
- How to Analyse and Categorise the Problems in Indian and International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers during New Product Development?
- Is there any Gap Analysis of Project Organisation Structure for New Product development in Indian and International Plastic Interiors Tier 1 and Tier 2 Suppliers?

10. RESEARCH HYPOTHESIS

H01: Project Organisation Structure does not help to develop New Products on Time and within Budget in International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers.

H11: Project Organisation Structure helps to develop New Products on Time and within Budget in International Automotive Plastic Interiors Tier 1 and Tier 2 Suppliers.

H02: Lack of Project Organisation Structure during New Product Development does not lead to Cost overrun in Indian Automotive Tier 1 and Tier 2

H12: Lack of Project Organisation Structure during New Product Development leads to Cost overrun in Indian Automotive Tier 1 and Tier 2

H03: Project Management Skills does not help Project Team to take quick decisions and reduces Problems Faced during New Product Development in Indian and International Plastic Interiors Tier 1 and Tier 2 Suppliers

H13: Project Management Skills helps Project Team to take quick decisions and reduces Problems Faced during New Product Development in Indian and International Plastic Interiors Tier 1 and Tier 2 Suppliers

11. RESEARCH GAPS

The research is essential with the objective of being able to know the different realities identified with the Indian car industry and NDP in a superior way. The Indian Tier 1 and Tier 2 suppliers are trying advertising efforts to create supplies for vehicle companies with the objective of meeting the vehicle company needs and prerequisites properly. It has been found that insufficient available information could provide significant data identified with the suppliers of Automotive Plastic Interiors Tier 1 and Tier 2 and illuminate the organizational adjustments will help the suppliers accommodate OEM's interest as far as fresh product improvements are concerned (Ayers and Odegaard, 2017). Thus, it is essential to direct the current inquiry towards the objective that relevant information identified with the current examination could be recognized in a superior manner.

12. RESEARCH GAPS OF VARIOUS TECHNIQUES

(Brettel et al., 2014) found that although in coming times the intelligent automation along with reorganization of labours may be beneficial for the organisations but the labourers are irreplaceable due to the efficient need of coordination. In shopping places the operators need to be efficient in decision making ensures the operations are carried out without any void. Although the self-sufficient systems can interact with each other, in case of any major problem in them, the decisions may be incorrect. So properly skilled labour should be there to monitor their performance in decision making.

(Brones, Carvalho, & de Senzi Zancul, 2014). Discussed about the gaps existing in their reviewed work where the environmental sustainability in product development is worked upon in particularly scientific papers. Sustainability issues are yet to be assessed in brief. Hence there exists a gap between the project management and environmental sustainability.

(Cooper, 2003) showed the different kinds of research challenges existing in developing a new product. These include the differences in thought existing in the world, inability to prioritize the information required immediately, a vast space of solutions which is yet to be explored, restrictions in time and funds and the huge possibility of failure.

(Kerzner & Kerzner, 2017) discussed the challenge of initiating the analysis considered while managing a project by considering the competency of the company.

(Giannakis & Louis, 2016) discussed that their approach lacks the need of empirical research in the framework. Further the benefits of MAS need to be recognized.

(Olson et al., 2001) did not provide much information about the behaviour content of the cooperation. The proposed work provides no information about the methods with which the managers can motivate the designed patterns existing in the cooperation. No hints are provided how the manager will upgrade the low cooperation levels existing currently.

13. CONCLUSION

The evaluation's basic commitment is to conduct a similar investigation into the structure of the task association in an problem that is examined in the Indian Automotive part during the fresh item enhancement by Tier 1 and Tier 2 suppliers. Moreover, this investigation is also useful in view of the fact that it distinguishes the problems that Top 3 Indian and international automotive plastic providers are looking at in Tier 1 and Tier 2 during new product enhancement. In addition, the study will also examine and order the problem within Tier 1 and Tier 2 supplier in Top 3 Indian and globally Automotive plastic during new product development. Finally, the evaluation will concentrate on the task association structure for the fresh item development in Top 3 Indian and Universal Automotive Plastics inside Tier 1 and Tier 2 providers in order to effectively differentiate the holes in the examination of the company association structure for new item enhancement in the best three Indian and international plastics providers inside Tier 1 and Tier 2.

REFERENCES

- [1] Ayers, J. B., & Odegaard, M. A. (2017)". Retail supply chain management. CRC Press.
- [2] "Bonner, J. M., Ruekert, R. W., & Walker Jr, O. C. (2002)." Upper management control of new product development projects and project performance. *Journal of Product Innovation Management: AN INTERNATIONAL PUBLICATION OF THE PRODUCT DEVELOPMENT & MANAGEMENT ASSOCIATION*, 19(3), 233-245.
- [3] "Boyle, G. (2017)." Design project management. Routledge.
- [4] "Brettel, M., Friederichsen, N., Keller, M., & Rosenberg, M. (2014)". How virtualization, decentralization and network building change the manufacturing landscape: An Industry 4.0 Perspective. *International Journal of Mechanical, Industrial Science and Engineering*, 8(1), 37-44.

- [5] “Brones, F., de Carvalho, M. M., & de Senzi Zancul, E. (2014).” Ecodesign in project management: a missing link for the integration of sustainability in product development?. *Journal of Cleaner Production*, 80, 106-118.
- [6] “Chavez, R., Yu, W., Jacobs, M., Fynes, B., Wiengarten, F., & Lecuna, A. (2015).” Internal lean practices and performance: The role of technological turbulence. *International Journal of Production Economics*, 160, 157-171.
- [7] “Cooper, L. P. (2003).” A research agenda to reduce risk in new product development through knowledge management: a practitioner perspective. *Journal of Engineering and Technology Management*, 20(1-2), 117-140.
- [8] “Dodgson, M. (2018).” *Technological collaboration in industry: strategy, policy and internationalization in innovation*. Routledge.
- [9] “Eltantawy, R., Paulraj, A., Giunipero, L., Naslund, D., & Thute, A. A. (2015).” Towards supply chain coordination and productivity in a three echelon supply chain: Action research study. *International Journal of Operations & Production Management*, 35(6), 895-924.
- [10] “Giannakis, M., & Louis, M. (2016).” A multi-agent based system with big data processing for enhanced supply chain agility. *Journal of Enterprise Information Management*, 29(5), 706-727.
- [11] “Gmelin, H., & Seuring, S. (2018).” Sustainability and New Product Development: Five Exploratory Case Studies in the Automotive Industry. In *Social and Environmental Dimensions of Organizations and Supply Chains* (pp. 211-232). Springer, Cham.
- [12] “Harrison, F., & Lock, D. (2017).” *Advanced project management: a structured approach*. Routledge.
- [13] “Kerzner, H., & Kerzner, H. R. (2017).” *Project management: a systems approach to planning, scheduling, and controlling*. John Wiley & Sons.
- [14] “Lawson, B., Krause, D., & Potter, A. (2015).” Improving supplier new product development performance: the role of supplier development. *Journal of Product Innovation Management*, 32(5), 777-792.
- [15] “Marion, T. J., Eddleston, K. A., Friar, J. H., & Deeds, D. (2015).” The evolution of interorganizational relationships in emerging ventures: An ethnographic study within the new product development process. *Journal of business Venturing*, 30(1), 167-184.
- [16] “Nicholas, J. M., & Steyn, H. (2017).” *Project management for engineering, business and technology*. Routledge.
- [17] “Olson, E. M., Walker Jr, O. C., Ruekerf, R. W., & Bonnerd, J. M. (2001).” Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance. *Journal of Product Innovation Management: AN INTERNATIONAL PUBLICATION OF THE PRODUCT DEVELOPMENT & MANAGEMENT ASSOCIATION*, 18(4), 258-271.
- [18] “Primo, M. A., & Amundson, S. D. (2002).” An exploratory study of the effects of supplier relationships on new product development outcomes. *Journal of Operations management*, 20(1), 33-52.
- [19] “Stark, J. (2015).” *Product lifecycle management*. In *Product Lifecycle Management (Volume 1)* (pp. 1-29). Springer, Cham.
- [20] “Ter Braak, A., Dekimpe, M. G., & Geyskens, I. (2018).” Retailer private-label margins: The role of supplier and quality-tier differentiation. *Journal of Marketing*.
- [21] “Tuli, P., & Shankar, R. (2015).” Collaborative and lean new product development approach: a case study in the automotive product design. *International Journal of Production Research*, 53(8), 2457-2471.
- [22] “Wilhelm, M. M., Blome, C., Bhakoo, V., & Paulraj, A. (2016).” Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier. *Journal of Operations Management*, 41, 42-60.
- [23] “Yang, S., & Fu, L. (2014).” Critical chain and evidence reasoning applied to multi-project resource schedule in automobile R&D process. *International Journal of Project Management*, 32(1), 166-177.
- [24] “Ayers, J. B., & Odegaard, M. A. (2017).” *Retail supply chain management*. CRC Press.
- [25] “Bonner, J. M., Ruekert, R. W., & Walker Jr, O. C. (2002).” Upper management control of new product development projects and project performance. *Journal of Product Innovation Management: AN INTERNATIONAL PUBLICATION OF THE PRODUCT DEVELOPMENT & MANAGEMENT ASSOCIATION*, 19(3), 233-245.

- [26] "Boyle, G. (2017)." Design project management. Routledge.
- [27] "Brettel, M., Friederichsen, N., Keller, M., & Rosenberg, M. (2014)." How virtualization, decentralization and network building change the manufacturing landscape: An Industry 4.0 Perspective. *International Journal of Mechanical, Industrial Science and Engineering*, 8(1), 37-44.
- [28] "Brones, F., de Carvalho, M. M., & de Senzi Zancul, E. (2014)". Ecodesign in project management: a missing link for the integration of sustainability in product development?. *Journal of Cleaner Production*, 80, 106-118.
- [29] "Chavez, R., Yu, W., Jacobs, M., Fynes, B., Wiengarten, F., & Lecuna, A. (2015)." Internal lean practices and performance: The role of technological turbulence. *International Journal of Production Economics*, 160, 157-171.
- [30] "Cooper, L. P. (2003)." A research agenda to reduce risk in new product development through knowledge management: a practitioner perspective. *Journal of Engineering and Technology Management*, 20(1-2), 117-140.
- [31] "Dodgson, M. (2018)." Technological collaboration in industry: strategy, policy and internationalization in innovation. Routledge.
- [32] "Eltantawy, R., Paulraj, A., Giunipero, L., Naslund, D., & Thute, A. A. (2015)". Towards supply chain coordination and productivity in a three echelon supply chain: Action research study. *International Journal of Operations & Production Management*, 35(6), 895-924.
- [33] "Giannakis, M., & Louis, M. (2016)". A multi-agent based system with big data processing for enhanced supply chain agility. *Journal of Enterprise Information Management*, 29(5), 706-727.
- [34] "Gmelin, H., & Seuring, S. (2018)." Sustainability and New Product Development: Five Exploratory Case Studies in the Automotive Industry. In *Social and Environmental Dimensions of Organizations and Supply Chains* (pp. 211-232). Springer, Cham.
- [35] "Harrison, F., & Lock, D. (2017)." Advanced project management: a structured approach. Routledge.
- [36] "Kerzner, H., & Kerzner, H. R." (2017). Project management: a systems approach to planning, scheduling, and controlling. John Wiley & Sons.
- [37] "Lawson, B., Krause, D., & Potter, A. (2015)". Improving supplier new product development performance: the role of supplier development. *Journal of Product Innovation Management*, 32(5), 777-792.
- [38] "Marion, T. J., Eddleston, K. A., Friar, J. H., & Deeds, D. (2015)." The evolution of interorganizational relationships in emerging ventures: An ethnographic study within the new product development process. *Journal of business Venturing*, 30(1), 167-184.
- [39] "Nicholas, J. M., & Steyn, H. (2017)." Project management for engineering, business and technology. Routledge.
- [40] "Olson, E. M., Walker Jr, O. C., Ruekerf, R. W., & Bonnerd, J. M. (2001)". Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance. *Journal of Product Innovation Management: AN INTERNATIONAL PUBLICATION OF THE PRODUCT DEVELOPMENT & MANAGEMENT ASSOCIATION*, 18(4), 258-271.
- [41] "Primo, M. A., & Amundson, S. D. (2002)". An exploratory study of the effects of supplier relationships on new product development outcomes. *Journal of Operations management*, 20(1), 33-52.
- [42] "Stark, J. (2015)." Product lifecycle management. In *Product Lifecycle Management (Volume 1)* (pp. 1-29). Springer, Cham.
- [43] "Ter Braak, A., Dekimpe, M. G., & Geyskens, I. (2018)." Retailer private-label margins: The role of supplier and quality-tier differentiation. *Journal of Marketing*.
- [44] "Tuli, P., & Shankar, R. (2015)." Collaborative and lean new product development approach: a case study in the automotive product design. *International Journal of Production Research*, 53(8), 2457-2471.
- [45] "Wilhelm, M. M., Blome, C., Bhakoo, V., & Paulraj, A. (2016)". Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier. *Journal of Operations Management*, 41, 42-60.
- [46] "Yang, S., & Fu, L. (2014)". Critical chain and evidence reasoning applied to multi-project resource schedule in automobile R&D process. *International Journal of Project M*