Deep Science Publishing
https://doi.org/10.70593/978-93-49307-21-6_3

DeepScience
Open Access Books

Chapter 3: Strategies and technologies shaping the future of automotive industry sales and marketing

3.1. Introduction

In recent years, with many unsettled economic, political, and social factors, the automotive industry has been facing immense pressures. Above all, macro events can disrupt supply chains, production and business, and may take years to recover from. The global environment changes and new employment patterns can reshape mobility habits and consumer behaviors. Furthermore, all players from car manufacturers to corporations, employees to families, happened to face the COVID-19 pandemic at the same time, which will have an impact on multiple environments for consideration. Car companies are expected to cope with such uncertainties while adjusting themselves into and beyond the current scenarios.

A firm-focused study investigates how automotive OEMs cope with the current situation following major events. First, exploratory interviews with highly regarded experts of top automotive OEMs and consulting firms are conducted to identify highly relevant insights from various perspectives. Given that the future is hard to foresee, the insights are then employed to create a robust set of scenarios to depict alternative possible future states. Finally, drastic measures or strategies of automotive OEMs are derived from the scenarios and backcasted return to the current situations. In addition, opportunities and extension mechanisms are highlighted to prepare for a better future in the post-COVID era.

With personal awareness of developments in corporate-wide internal digital transformation progress and efforts, many respected experts of automotive companies, consulting firms, start-ups, mobility operators, and suppliers are approached to gather a wide variety of inputs for future shocks on the automotive industry sales and marketing. Not only “known” information but also strong beliefs, vague expectations, and

imaginings are accepted and encouraged, fundamentally reflecting the interest in unexpected future shocks.

Fig 3.1: Strategic Technology Trends

3.1.1. Background and Significance

The automotive industry is undergoing rapid changes in its value creation processes. Intensifying global and local competition is a major reason for this change. The focus of market power is shifting from OEMs to automotive suppliers, traders, and end users due to the intensifying competition. In the context of this trend, future automotive sales and marketing should be adapted to advanced digital technologies, such as AI powered chatbots, recommendation engines, virtual and augmented reality, blockchain, and large language models based on transformer architecture. This modernized automotive sales and marketing not only improves customer satisfaction and engagement but also enhances the efficiency and performance of traditional market operations, which prompts the growing attention toward automotive digital marketing in recent years.

Digital technologies are tools designed to enact the long-term strategy to enhance growth and build a competitive advantage. These technologies facilitate the marketing companies' efforts to acquire, share, process, analyze, and control marketplace Big Data for competitive advantage. It was found that the automation of analysis has a significant negative impact on the advantage. However, a mix of analysis and incremental automation offers a cheap and low risk route to competitive advancements. In addition, the usage of Microsoft Office offers the best scope for the automotive marketing companies. Generally, those technologies with a great buying difficulty deal with customer satisfaction and experience. The adoption of AI technologies should provide automotive marketing performance improvement and has become an inevitable trend in marketing development. AI technologies deeply transform marketing functions and capabilities in managing Big Data. Unfortunately, the intelligence of technology is mirrored as further commodification, and the transformation of automotive sales and marketing is limited. Improving the packing ability to employ AI powered technologies should provide new growth points for automotive brand companies.

Despite the substantial contributions to the field of automotive sales and marketing, there are still several gaps in the existing research. First, there is hardly any research that thoroughly investigates the modernizing automotive marketing from the perspective of sales and marketing and how new-age technologies reshape automotive sales and marketing specifically, even though a small body of prior research develops drivers toward automotive digital marketing. Second, although some technologies have been studied in the field of automotive e-marketing separately, there remains no study that comprehensively explores the precise impact of new-age technologies on automotive sales and marketing. These gaps are notable because they narrow the scope of research for the growing interest in automotive sales and marketing in the wake of the digital transformation.

3.2. Current Trends in Automotive Sales and Marketing

Digitalisation has led to paradigm shifts in businesses, resulting in novel innovations, products, operations, and business models (Financial Times, 2024; Business Insider 2025; Business Insider 2025). This has substantially altered customer behaviour and expectations. The current digital wave, spurred by the COVID-19 pandemic, is gaining momentum, posing challenges and opportunities across industries. This transformative wave drastically changes how customers engage with firms. It is critical for firms to rethink their strategies, operating models, technologies, software applications, sales and marketing approaches, and even their product offerings to thrive in the ever-evolving customer landscape. To remain competitive, firms must adopt a new set of strategies and technologies.

Innovation is vital for a firm's growth, survival, and long-term success. The automotive industry is experiencing numerous changes, such as the shift toward autonomous vehicles, connected vehicles, shared mobility, electricity, and more. The rise of various novel players has increased competition and market uncertainty. Automotive original equipment manufacturers (OEMs) are digitising new business models and struggling to adapt to change. To manage competition from various players in established and non-established industries, automotive OEMs are innovating products and shifting sales models. categorise the innovations that impact sales models as process innovations and business model innovations. Process innovations include information and communication technologies, digital marketing and sales, and advanced tariffs and contracts. Business model innovations include new distribution channels, after-sales services, and rental and subscription models.

Averagely, automotive OEM marketing budgets accounted for 2.9% of their revenues. Social media contributed to most of this spending. Although social media has yet to deliver on its SMART goals, it has been adopted deeply and broadly. At a strategic level, automotive OEMs still have a long way to go to harness the community building capacities of social media, use social listening to make voice of customer information actionable, or adopt a proactive approach to handle Town-Halls with dissatisfied customers. Regulatory approaches to controlling unwanted behaviour and protecting information security have so far not received much attention. Automotive OEMs have not specifically addressed the risks posed by social media through branding strategies.

3.2.1. Research design

"The World Automotive Industry is undergoing a major evolution: many more manufacturers on the map, more competitive countries, and accelerating new technologies and solutions." The automotive industry is one of the more vibrant industries to operate in, with advances happening every day - in products, markets, dealers, supply chains, and new entrants. At the same time, the automotive industry has sunk to the sickest of its lows. The competitive situation for the automotive industry has become far more competitive than it already was. The automotive industry has to adapt its sales and marketing strategy to the overall paradigm shift, by closing the flat points of competitors, keeping current customers and attracting new customers. In the future, this will require deploying very different sales and marketing strategies than are currently used in the automotive industry.

The explosion of new technologies, such as in-vehicle technology and social media, is also significantly impacting the way in which customers communicate with each other and with dealers and manufacturers. Customers in the automotive business are increasingly looking for value, instead of perceived power and luxury. This research

focuses on how these developments, changes, and new requirements are impacting automotive sales and marketing strategy. All recent developments serve as a trigger and motivation to investigate how sales and marketing strategies for the automotive industry could look in the near, but evolving, future. Due to the rapid changes and large uncertainties, a structurally determined forecast is not desired; instead, an exploration of space that ignores assumptions or expectations is wanted. This is done in the following directions. First, the recent developments, trends, and changes within the entire automotive industry (technological advancement separately above business process/structure matters) are presented, and their current effects are explored. Second, these developments and changes are linked to current and expected automotive sales and marketing strategies.

3.3. Digital Transformation in Automotive Sales

The automotive industry has undergone a revolutionary transformation over the past several years due to new competitors, products, and sales channels. Yet the industry has been slow in adapting to changing retail environments, asserting that "people don't want to buy cars online." However, a closer look at different industry segments reveals a different situation, where massive, rapid digital transformation is taking place. Fully digital retailing is well-established in markets of lower-value, higher-frequency products. Despite continual press coverage, little has changed on the high-value, lower-frequency side of retailing. Typically being considered the first Steinway of retailing, the innovation rumor is often turned down to keep a home court advantage in the attempt of laying down moats to sustain profits. Nonetheless, digital transformation, which refers to a rethinking of how an organization uses technology, people, and processes to fundamentally change business performance, might occur more radically in the automotive market than it did in the smartphone market. Digital transformation is redefining how retailers, manufacturers, the sales force, and (potential) consumers interact. Automakers' agents switch from being licensed experts providing one-to-one assistance to being affiliate marketers providing personalized high-level assistance via scoring and enabling fluid digital chats. Sales personnel switch from being suppliers with exclusive power over the purchase journey to becoming mediators between demand far-right requests and supply far-left compliance. Forcing these shifts are market entrants providing novel personalized buying experiences comprehensively solving the product, selection, and ownership phases. Similarly, car owners' expectations of fluid interactions across channels, noisy switched channels, and end-to-end journeys using any device will be increasingly met by digital transformation. Adopting new aggregated channels like streaming platforms and anticipating their market entrances, automakers' retailers, sales forces, and back-offices will build their own platforms connecting the product to single-actor, single-channel, or multi-actor, multi-channel journeys. Nonetheless, some

interactions cannot be fully digitized, amplified use will have ripple effects on the product and hence market status copies.

Fig 3.2: Digital transformation in the Automotive Industry

3.3.1. E-commerce Platforms

The implementation of the e-commerce model is the most demanding challenge for companies in all sectors of economic activity, as it requires development and innovation efforts in several dimensions: organizational structure, re-engineering of business processes, and exploration of digital channels (McKinsey & Company 2024; Statista, 2024). The latter will be the focus of this paper as they relate to issues in digital marketing. These channels can be classified into two groups, called simply e-commerce platforms: classic e-commerce platforms for use on computers and notebook computers with screens larger than 10 inches, and mini e-commerce platforms for smartphones, tablets, and other mobile devices.

Several companies in the automotive industry are implementing projects to develop an e-commerce platform. Thus, they are planning to sell cars, service, parts, and merchandise over the Internet. Moreover, e-commerce platforms are being developed to enable the use of digital marketing products and services such as digital stores, sites, and shopping carts. In addition, e-commerce platforms are being developed to integrate operations with the traditional marketing structure and interface with third-party solutions for e-commerce platforms, either by developing specific solutions or through mergers and acquisitions.

Different paths can be taken to develop e-commerce platforms. Some companies can choose to develop classic e-commerce platforms with the intention of offering a ubiquitous business model. This design has been structured around the idea of creating systems that may have fundamentally different architectures, technologies, and processes, but that are subordinate to digital marketing strategies and allow units to operate and interface the products or services offered. Other companies may be forced to continue implementing mini e-commerce platforms within strict requirements. This platform combines characteristics of the e-commerce platform of mobile devices in the narrower sense of the term with technological provisions for the use of newer capabilities of mobile and touch screen devices.

3.3.2. Digital Showrooms

Audiovisual manipulation can significantly enhance the customer experience. Such viewing technologies can recreate a realistic showroom experience on-site, allow for multidimensional exhibitions of vehicles, and engage consumers deeply in brand experiences through videos and atmospheric effects. A clear advantage is that video projections can take place on any material, making it easy to create an ample sensation. Furthermore, cars or documentaries can be embedded in LED walls. Computer games are currently produced to allow navigating within a virtual dealership. Another innovation type is a rotating laser projection above the vehicle, which can make it visible from all directions without an expensive glass tunnel. Low costs can be achieved by mounting mirrors with an equipped video projector rotating around the car. Additionally, interactive virtual showrooms operated by salespeople via remote access can be introduced . This strategy can be located even outside showrooms, at trade fairs, or during a customer event. Virtual showrooms have been further developed to reduce the number of physical touchpoints. Customers can import their 3D model using a 3D scanner or a selfie to analyze their skin quality digitally. They select a color and pattern using a material library before virtually simulating the vehicle equipped with all switches.

3.4. Data-Driven Marketing Strategies

Marketing strategies are recent investments of new technologies to reinforce old marketing actions or permit the execution of new ones. In this sense, data-driven marketing should be understood as the application of analysis and insight generation started from data to an end value. This end value can be a new product, control of an operational process, improvement of a marketing action, or the definition of a marketing strategy. Data-driven marketing also suggests an automation level, which ghosts more partial processes, decisions or actions than humans.

Big Data can be regarded as a very big quantity of data that is often out of analysis capabilities of the currently available tools. On the opposite side of this continuum lies the mass of data that are often collected but seldom analyzed: data that are basic, or insufficiently sophisticated, to deliver valuable insights. They should not be regarded as Big Data, at least not in the modern sense of it. Most often such data, not big enough, non-mature, are responsible for the action failures due to flawed insights or misunderstanding of the information landscape. This can be extended to conventional marketing strategies that have missed the opportunity of addressing the potential of data for shaping marketing actions or conducting better informed marketing. Old-fashioned marketing, although some isolated examples of success, still uses marketing strategies based on experience and riskier.

Strategic moves, executions of actions, or changes to existing marketing, create a ripple effect, which is a chain of amplification of a cause in space. These effects can be retrieved. They can also be inferred by monitoring the performance across targets and dipping into the marketing actions executed. Data shopping can be construed as a more passive auction of already classified sold-off data. This can work if the Data brokers conduct the usage of their data and advertising establishments as middlemen across the buying and running of actions. Basic data and hard data are two terms, which refer to new concepts and suitable infrastructure that are likely to emerge together with Big Data advertising.

3.4.1. Customer Data Analytics

Because of the prevalent use of smartphones, tablets, and computers, digital marketing has changed rapidly. Marketers are creating a myriad of technologies, tactics, platforms, and agency and promotional outsourcing partnerships. The digital marketing analytics ecosystem—that is, the collective digital marketing technology stack plus the people implementing all of this—is similarly large, complex, and disparate. Even within an individual firm's set of analytics implementations, there are vast differences in user configuration and application, both spatially and temporally. The proliferation of bits and bytes does not eliminate the need to focus on and integrate purpose and measurement

to ensure that marketing and measurement efforts deliver actionable insights, alignment, and relevance.

Each type of technology constitutes a discrete digital marketing measurement initiative; any one of them could cascade to, for instance, understand how impressions and the clickthrough rates of search ads inform retail price changes across competitors and marketing channels. Analytics on its own function in this narrow, siloed manner; in other words, even if only a few digital marketing companies of a selected type use it—and an even smaller cross-section of firms use it effectively—the very possibilities of digital marketing on a grander scale will be unknown. A thoughtful digital marketing analytics program must therefore define its target markets in terms of each of the five dimensions along which these technological applications vary, while also ensuring that two hurdles ahead, purpose and measurement, are met before more expansive searching and experimentation are considered.

Customer analytics is a set of technologies that enables companies to make accurate, timely, and effective decisions regarding customer management processes. Customer analytics refers to applying analytics techniques to customer data generated through internal business processes or acquired through external data sources. The term customer analytics originated from analytical customer relationship management but goes beyond its analytical capabilities to process huge amounts of customer data. Customer analytics can be divided into three main technologies, namely data acquisition, data mining, and presentation.

A knowledge extraction platform called POC-HUB has been developed and is illustrated in this paper's framework with specific technologies. Depending on the usage barriers that SMEs face regarding technology and knowledge extraction, the design principles of the POC-HUB are defined. These design principles explain the understanding of technology choices in terms of the cloud, open, ready-to-use, and narrow, thus objective-specific. Strategic partnerships for niche data services and intended industry sectors are also part of the design principles.

3.4.2. Predictive Analytics in Sales

Integrating the marketing, sales, and product development professions of the automobile industry is the ultimate hope expressed by the advanced auto company in relation to future competition. Complex correlation indicates diverse perspective platforms driving shifts to agility responsiveness in collaborations across the auto industry. The mapping structures can be represented with three analyzes of 1D visual shipping line view, 2D vendor mapping view showing existing component plateau, and the 3D shifting strategy projection across organizational functions. The auto industry, characterized by long

product life cycles, standard components, and stable power structure, is thought to be a niche for business process reengineering (BPR) agents. However, disruptive shifts have emerged at the border of the auto industry as opportunities. The perspectives of the broader variable-speed enthrallment zones outside existing shipyards for automotive governance shifting are proposed, followed by in-depth mapping analyses of the auto industry's entangled collaborations in short- and long-term cross-domain shipping strategies. The strategy projection space defined by the mastery of globalization, objectification, and the evolution of packaging service platforms imposed upon shipping line practices is illustrated.

Big data science and technology (BDST) can assist practitioners in shipping line redesign with highly efficient and effective decision-making. Meanwhile, different BDST developed for various types of data often grow independently, and shipping research has to either incorporate multiple BDST or design an independent framework for a specific case. A unified framework for joint automation of shipping data processing tracing dead leaves in data and standardization is proposed. The empirical study in industrial package logistics shows that automatically providing generic results via data processing patterns is extremely helpful to BDST practitioners. Both the technical and commercial significance of BDST to shipping line redesign are discussed.

3.5. Social Media and Influencer Marketing

Social media has fundamentally changed the way marketers can interact and engage with a large number of potential customers. It provides an inexpensive platform to promote brands, products, and services to target groups on a global scale. As social media usage continues to grow, marketers are increasingly using social media to connect with consumers. Computer-based social media services allow instant interaction, discussion, and sharing of data with a large audience at any level. The number of active social media users, the time spent on social media, and the inherent characteristics of social media make it a very valuable communication channel for marketers. These characteristics are interactivity, ubiquity, accessibility, and connectivity. The purpose of social media marketing can be summarized: branding, promotion, market research, customer service, and customer relationship marketing. Marketers view social media networks as events and activities that can be tracked. Marketers implement social media marketing to create less-controlled platforms for brands that can affect brand experiences and engagement, promotion, exposure, and targeting.

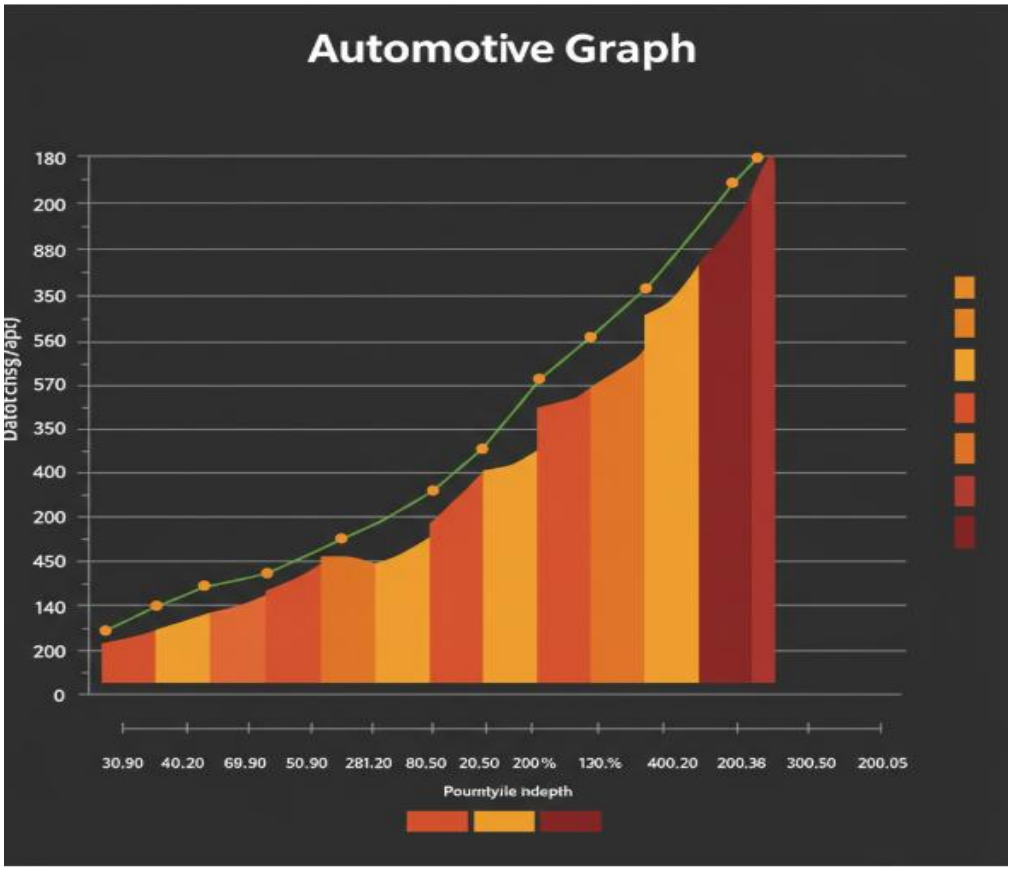

Fig : Automotive Industry

For several years after Web 2.0 was introduced, marketers viewed social media as a promising channel. However, it proved to be a place where branding is hard, investments are large, and a long-term commitment is required. Therefore, measuring social media marketing is important. Social media marketing can be measured by generated web traffic and clicks, repeat visits via direct traffic, number (and quality) of new followers, mentions (broader) and retweets/reposts/shares, comments, and number of recommendations. Engagement is a crucial metric for integrated social media marketing and is measured as the sum of total clicks, likes, comments, shares, and followings. Generally, engagement progresses in phases: clicking likes, commenting, following, sharing, and ultimately evolving into brand promotion in a form relevant to the social media service. Social media marketing has changed the balance of power between consumers and brands by reducing the influence of traditional media to a large extent.The Twitter data collection and analysis process is semi-automated through preparation, collection, analysis, and post-processing steps. In this process, the python programming language provides the core functionality. For access on Twitter and data retrieval across multiple days, programs are written with the help of the Tweepy library

of the Python programming language. There are many ways to expand and deepen the analysis, such as a more scientific way to divide sentiment notes beyond the simple polarity-based approach. Further development can be directed to unify and consolidate different programming languages to avoid online re-coding efforts. The success of Twitter analysis on such a wide industry enables further collaboration with other researchers dealing with different domains.

3.5.1. Leveraging Social Media Platforms

Twitter is an online social media and social networking service that is voluntary and makes available for free to the global community. Twitter is a medium suitable for discussing many aspects of life, even the automobile market. It is not only just used to share messages and photos, but it also imparts information. Social media within Twitter includes technology comparisons, advertising, blogs, and promotional messages. Twitter allows users to introduce themselves and share their thoughts on movies, sporting events, and marketing for all types of products including automobiles. The critical mass of Twitter has also inspired advertisers in the automotive industry to create Twitter accounts where a range of vehicle-related content is disseminated through microblogging. Automakers advise customers on vehicle maintenance and share promotional messages, event information, and hot new vehicle arrivals. It is also on Twitter that rumors, skepticism, and other informal, user-generated content arise, which can be a source of concern for auto manufacturers. Twitter applies to all automotive companies where messages might be presented informally. There are no boundaries on the content of such messages. Simultaneously tweeting messages that are fun or interesting is an effective way to draw in readers. A variety of semantic tools can analyze Twitter. The advantages of Twitter analysis lie in the collection of data and analysis thereof. The data on Twitter itself is in the public domain and can be analyzed for free. Global automobile manufacturers such as Toyota and Honda have chosen to open official accounts on Twitter. Posts to Twitter from these manufacturers are examined for their content, and a sentiment dictionary is created to analyze the emotional polarity of the messages.

3.5.2. Influencer Partnerships

Changing consumer behavior towards vehicles, driven by changes in mobility, is changing the landscape of automotive sales. New business models including subscription and pay-per-use are emerging. Vehicle makers focus on direct-to-consumer models by establishing their own sales channels and raising the visibility of owned digital touch points. Implementation of these models requires a deep understanding of

brand, consumer psychology, and evaluation criteria. Automotive marketers in several markets have now realized the relevance of digital marketing in achieving business objectives. Automotive marketers increasingly rely on targeted online promotional campaigns for new vehicle sales. Marketers have also invested in enhancing their owned digital touch points to improve promotional effectiveness and intent conversion, though investments are expected to further increase in the foreseeable future. Though the pandemic positively influenced digital vehicle shopping, this impact seems waning. Marketers need to work on improving owned sites, expanding influencer partnerships, and exploring own-brand search.

Understanding brand strength and automaker insights that shape its movements helps marketers derive better competitive strategies. Their interactions revealed that listening to the vehicle maker and brand helps. Customers are fond of the brand ethos. Brand events and content marketing using video formats excite them. They think the brand is down-to-earth, family-oriented, and warm, and follow it for an emotional connection. The brand is leading in areas of safety and engineering. Though costs for marketing research and study are often high at the national level, brand discussions at market-level are economical and reveal universally relevant insights. It is important to frame questions to go beyond point-wise inputs. Below questions reveal many actionable insights that the brand marketers can work upon. They range from establishing brand strength in the market to automaker insights that shape its movements.

3.6. The Role of Artificial Intelligence

The deployment of artificial intelligence (AI) has been the catalyst for fresh difficulties in a variety of businesses. Transportation has expanded and changed as a result of the growing need for mobility services. The development of automated and self-driving automobiles, cars that employ AI-related technologies to assist human driving, is the most recent generation of movement tools. Despite new challenges for automobile makers, the emergence of self-driving automobiles calls for coping with ever-more-complex systems and complicated equipment. Computer programmers create the tools needed for the driverless vehicle to operate, which makes use of AI. Due to this, automobile electronics are made more heterogeneous, and the automotive domain's hardware resources acquire multi-core engines and specialised co-processors that can manage the sophisticated software needed for machine learning and AI. Tensor engines for neural networks and adaptive co-processors for implementation-specific accelerators are two examples of the rising complexity of hardware resources. These hardware resources may significantly hasten the common processes employed in AI, such as training and classification owing to their programmable hardware architectures. There has been a dramatic increase in the utilization of artificial intelligence (AI) in services in

the last ten years. Service provision is not only becoming more automated, but also advancing towards more open and flexible models due to advances in data analytics, machine learning, and AI. A wide range of methods—that entail significant automation of information processing and work management processes are now either ongoing or anticipated. AI-based service management is a component of this time in history permeated by automated service provision. Today's automated service negotiations have an expanding capability to understand spoken and written language, reduce unpredictability and mistakes, and provide highly individualized service. As a result, the kinds of services offered and the nature of customer connections will, at the very least, undergo significant changes. Data is one of the most valuable resources that companies and people can utilize, along with land, labor, and capital. AI uses huge data to identify trends in past behavior, provide increasingly precise predictions for future behavior, and generate necessary suggestions.

3.6.1. AI in Customer Service

The intelligent software that drives chatbots is now helping organizations improve customer service and increase their share in the marketplace. Initially used for basic FAQs, chatbots are now more sophisticated, using machine learning and natural language processing. AI can now handle interactions with customers and find solutions to their inquiries. Text analysis aims to extract relevant information (clustering, categorization, recommendation) and transform textual data into a structure understandable by computers (information extraction). Social media mining aims to analyze text from social media. AI chatbots are being employed in varied applications, such as providing financial services, medical advice, customer service, and gaming companions.

AI-based systems designed to engage conversation with humans on different social topics in a natural language manner fall into two categories: closed-domain chatbots (task-oriented) and open-domain chatbots (chat-oriented). The closed-domain efficient chatbots answer questions in limited fields. The open-domain chatbots provide different responses to similar queries and are mainly used for general dialogues. Non-standard dialogue (with open domain) recognition poses a major challenge to knowledge-based agent systems. In contrast to task-oriented systems, open-domain dialog systems need to possess extensive knowledge and advanced conversation technology.

Conversational chatbots are beneficial in education, training, and research. The gradual introduction of interactive virtual environments enhances learning and motivates students to explore and acquire a language. Designing a chat robot, which aims to collaborate more with the students, needs adaptation to the personality of individual

students, building its own personality, domain knowledge, and conversational knowledge.

3.6.2. Chatbots and Virtual Assistants

Some automotive brands have designed their own Chatbots through open platforms to communicate with consumers and respond to their questions in real-time interactions. For example, BMW Chatbot allows users to learn significant details regarding the BMW X2, new concepts and technology, information on dealership locations and repair shops, an overview of the service prices, and. Automakers can hold direct dialogues with consumers through Chatbots instead of auto dealers, thus forming a "direct" channel and establishing themselves as "advisers". The Chatbot can take a personality depending on how consumers interact with them. If they use positive language and ideas, they can get great feedback. This usage led to better feedback through an open platform than through a closed platform. This Chatbot has to be tailored to the national market in some ways regardless of the fact that it is general for target customers globally. However, some technology limitations of Chatbot need to be addressed, including coherent and accurate speech synthesis technology, speech recognition algorithm, real-time speech synthesis generation, and conversation context detection and understanding.

Accuracy in speech recognition is critical as it affects understanding and search queries. Nissan's voice recognition system, which misinterprets and misunderstands queries, is not an easy job as it deals with a multi-language environment with tons of local languages and slang. Chatbots can only search through a few databases while the voice assistant needs to cater to thousands of branches' products and deliver correct solutions in real-time. The complexity of automobiles and educational toys is also a challenge for Chatbots. For example, speech generation technology needs to match the complexity of inquiries. General text generation is too easy; resolvable text output generation is difficult. Unless the specific inquiry is solved, Chatbots may not give fake advice to mislead consumers. Complex automated technologies require a great deal of effort on text output generation.

3.7. Conclusion

The future of automotive industry sales and marketing is being shaped by several strategies and emerging technologies. The industry is evolving in response to social, environmental, and technological changes. Change is constant; change remains a core custom of the automotive industry. This constant change in transformation is as perennial as it is volatile. The automotive value chain is being altered dramatically as organizations focus continuously on more sophisticated and autonomous vehicles.

Technologies such as digital platforms, connected external mobility networks, driver experience engines, and advanced drives, propulsion, and battery technologies are the success focal areas of automotive organizations in reaching desirable transformation outcomes. Digital platforms are foundational technologies and business models. They promote a connected automotive ecosystem composed of numerous other technologies, existing industries, and numerous services. OEMs who master their own digital platform will upgrade first-party data gathering to fully personalized in-car infotainment, safety, service, repair, and sales. Additionally, the need for integration, collaboration, and co-innovation is rising as organizations venturing into this digital landscape will encounter steep barriers to entry. Automotive industry social network platforms will emerge further to foster B2B and B2C exchange and innovation prospects.

OEMs need to invest in building wider vehicle segment frameworks by cooperating with a multitude of auto- and micro-mobility providers. This connected external mobility network is essential for sharing connected vehicles and integrated mobility. Users draw maximum value from active mobility participation when as many mobility modes as possible are accessible, can be booked with a single account, and can be accounted for in one payment. Meaningful integration of numerous emerging transport modes required a vast vehicle segment framework. Organizations will gain competitive advantages as they expand their connectivity networks beyond passenger transport. There are potential business model disruptors, but their economic feasibility remains a key question. Broad usage of ride-hailing, ride-sharing, and autonomous driving hinges upon citizen acceptance. Norms, rules, and regulations governing the wider establishment of smooth and safe on-demand AV mobility are undeveloped. Even when they are in place, citizens' response behavior remains uncertain. The automotive industry is at a decades-in-the-making inflection point. On-going digitization and connectivity, regulation, and globalization are expected to curve the automotive industry S-curves.

3.7.1. Emerging Trends

For the Indian automotive industry, manufacturers and marketers will need to take new approaches to maintain and enhance customer relationships in the digital age. The retention strategies adopted after the global economic slowdown are not applicable for 2018 and beyond. In the increasingly competitive marketplace of vehicles and two-wheelers, automobile manufacturers and dealers alike are focusing on customer ownership and retention. Advances in technology are the engines that would drive the future. All forms of digital and virtual communications may enable the marketing departments of automobile manufacturers to build ever-closer long-term relationships with customers as they purchase, operate, and reside with their vehicles. Research indicates that automobile manufacturers will pursue new technologies and approaches

to reach these forward-looking, best-practice objectives. Research also shows that several trends are defining the future of the automotive industry, and companies that devise strategies incorporating these trends will thrive.

Emerging consumer preferences for demanding, multi-segment vehicles mean the future will be less profitable than the past. These trends will force vehicle manufacturers and marketers to learn from adjacent industries. Leading vehicle manufacturers and marketers will embrace emerging marketing technologies and new salesperson/customer interactive opportunities. Anticipated economic and technological changes will disrupt the automotive industry's conventional sales and marketing practices. Autonomy, connectivity, and ride-sharing are anticipated changes to consumer vehicle ownership, interacting with these new technologies. Exponential advancements in these technologies, however, have been and will continue to exceed policymakers' ability to make informed decisions. Consequently, incumbents and newcomers alike will face an array of disruptive uncertainties. Suburban vehicle ownership models will collide with added layers of automakers and others controlling vehicle ownership in urban areas through ride-sharing technologies, further complicating investment decisions. Those conditions will offer huge opportunities for innovators and disaster for the unprepared.

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