Proceedings of the 7th International Conference on Economic Management and Green Development
DOI: 10.54254/2754-1169/33/20231652

Digital Transformation for Traditional Automakers: Comparative of General Motors and Volkswagen

Mengyue Xi[1,†] and Chenzhi Zhao[2,a,*,†]

[1]*Sun Wah International Business School, Liaoning University, Shenyang, 110000, China*
[2]*School of Management, University of Buffalo, Buffalo, 14228, USA*
a. chenzhiz@buffalo.edu
**corresponding author*
[†]*These authors contributed equally.*

Abstract: This paper analyses the impact of various political, resource, economic, social, technological, competitive, organizational, and market aspects on the digital transformation of traditional automotive manufacturing companies. It also examines the marketing strategies General Motors (GM) and Volkswagen used in their digital transformation. GM has increased its online presence and customer satisfaction through social media, mobile applications, email marketing, search engine marketing, and after-sales service while enhancing brand awareness and loyalty. Volkswagen has increased brand awareness and customer loyalty by building an electric vehicle charging infrastructure, marketing on social media platforms, and mobile app services. These digital marketing strategies have positively influenced traditional automotive manufacturers' digital transformation.

Keywords: digital transformation practice, automakers, GM, Volkswagen

1. Introduction

Digital technology is transforming the automotive industry and disrupting traditional business models. New business opportunities related to Industry 4.0 are emerging. In addition to the emergence of smart connected cars and electrification technologies, consumer behavior is increasingly going online. Thus, traditional automotive enterprises must make digital transformations in marketing and after-sales service to adapt to the ever-changing new environment. Digital transformation fundamentally uses digital technologies to change business operations and customer experiences. In the automotive industry, digital transformation has become vital to improving customer satisfaction, streamlining processes, and achieving business growth.

This essay will examine the digital transformation of traditional automotive enterprises based on customer life cycle management. The essay will begin by defining digital transformation, customer life cycle management, and the automotive industry. Then analyze how digital transformation has affected marketing and after-sales services in the automotive industry. Finally, the essay will conclude by outlining the benefits of digital transformation of traditional automotive enterprises and how they can adopt customer life cycle management to remain competitive.

DOI: 10.54254/2754-1169/33/20231652

2. Literature review

With the emergence of digital technology and the increasing demand for personalized customer experiences, the automotive industry has significantly changed in the past decade. In Deloitte's Global Automotive Consumer Survey - China report, traditional car companies now realize the need to transform their business models and strategies to remain relevant in the digital age [1]. One of the key areas of focus for these companies is customer lifecycle management (CLM), which involves understanding the customer journey from pre-purchase to post-purchase stages and using digital technology to enhance the customer experience. This literature review explores the current state of digital transformation of traditional car companies based on CLM.

According to empirical research by Stone et al., in analyzing the detailed findings of how companies collect and use customer data, traditional car companies' CLM typically includes four stages: pre-purchase, purchase, post-purchase, and loyalty [2]. In the pre-purchase stage, companies use digital technologies such as social media, online advertising, and email marketing to attract and engage potential customers. In the purchase stage, companies utilize digital platforms such as online marketplaces and e-commerce websites to facilitate buying. In the post-purchase stage, companies focus on customer retention and satisfaction by providing personalized services such as maintenance reminders, loyalty programs, and customer support. In the loyalty stage, companies aim to retain and upsell existing customers by providing customized benefits and incentives.

Llorens-Montes et al. conducted a study on the impact of digital transformation on the automotive industry. It covers small and medium-sized enterprises (SMEs) that provide products or services to the automotive industry and multinational companies operating in Spain [3]. The study analyzes how traditional car companies' digital transformation involves integrating digital technologies into their business models and strategies. One of the key drivers of digital transformation is the growing demand for personalized customer experiences, which requires companies to adopt a customer-centric approach. Companies now use digital technologies such as big data analytics, artificial intelligence, and machine learning to gain deep insights into customers' behavior and preferences. This enables them to provide personalized services and products to customers, thereby enhancing the overall customer experience.

Another key driver of digital transformation is the need to simplify business processes and improve operational efficiency. Farooqi et al. discuss how companies are now adopting digital technologies such as cloud computing, automation, and robotics to automate manual processes and reduce costs [4]. This covers customer retention, customer service, risk assessment, and fraud detection. This enables them to focus on providing value-added services to customers and improving their overall business performance. The issue of data mining in CRM brings a new perspective on the application, opportunities, and challenges of digital transformation.

In summary, the digital transformation of traditional car companies based on CLM is a key area of focus for companies to remain competitive in the digital age. Companies that adopt a customer-centric approach and use digital technologies to enhance the customer experience are more likely to achieve long-term success. However, companies must also focus on simplifying business processes and improving operational efficiency to maximize the benefits of digital transformation.

3. Digital transformation of traditional automotive companies

3.1. Political Factors

Government policies promoting new energy and intelligent vehicles have accelerated the digital transformation of traditional automobiles. It includes promoting the construction of new-generation wireless communication networks, accelerating the development of wireless communication (C-V2X)

DOI: 10.54254/2754-1169/33/20231652

standards, and technological upgrades based on cellular communication technology between vehicles and other devices outside the car. It also includes promoting the digital transformation and upgrading of road infrastructure such as traffic signs and markings, strengthening the intelligent interconnection between traffic signal lights, traffic signs and markings, communication facilities, intelligent roadside equipment, and on-board terminals, and promoting the formulation of relevant standards for the intelligent construction and transformation of urban road infrastructure, as well as the construction of management platforms. In addition, cross-industry collaboration among companies in the new energy vehicles, energy, transportation, information, and communication fields is encouraged to meet diverse production and application demands.

3.2. Resource

Resource factors are also important in the automotive manufacturing industry's digital transformation. Resources include funding, personnel, and technology. Among them, automotive manufacturers need to recruit and cultivate talents with a digital technology background and professional skills. These talents need skills in artificial intelligence, data analysis, and cloud computing to support the implementation and management of digital transformation.

3.3. Economic Factors

As consumers' demands for cars continue to change, car manufacturers must constantly improve their quality and performance to meet their needs. This requires constantly investing more capital and resources. The application of digital technology can effectively improve the efficiency and quality of car manufacturing, and reduce manufacturing costs, thereby reducing the price of cars, and enhancing the competitiveness of enterprises. In the 2021 GM Sustainability Report, General Motors used cloud computing and virtual reality technology to control digital transformation costs and reduce research, development, and production costs. By applying digital technology, General Motors also improved production efficiency and product quality and reduced production costs. Car manufacturers need to accelerate digital transformation according to the current economic environment to maintain market competitiveness.

3.4. Social Factors

Changes in consumers' preferences for intelligent and new energy vehicles have accelerated the digital transformation of the traditional automobile industry. Due to the long-standing appeal of low-carbon environmental protection, the number of consumers choosing new energy has increased. The new energy vehicles themselves have more digital functions, making social public opinion position new energy vehicles as a future trend. More and more car companies will choose to produce new energy vehicles, effectively promoting car companies to carry out a series of digital transformation plans while adding new product lines.

3.5. Technological Factors

Advanced technologies such as artificial intelligence, cloud computing, big data, and the Internet of Things allow the traditional automobile industry to transform digitally. The rapid development of new-generation car technologies, including the application of artificial intelligence, 5G, the Internet of Things, and autonomous driving, has dramatically improved the brightness and interconnection of cars, further stimulating consumer interest and demand. They are using big data technology to collect and analyze the operation data of vehicles better to understand their use and failure reasons, thereby

DOI: 10.54254/2754-1169/33/20231652

improving their reliability and safety. The traditional automobile industry has to accelerate digital transformation to keep up with technological progress.

3.6. Competition Factors

Compared with developed countries, China's automobile manufacturing started relatively late, and the technological accumulation time is relatively short. The emergence of new energy vehicles allows Chinese car companies to bypass the technical barriers of advanced processes such as engines and compete with developed countries' car companies through the already mature technologies of batteries and motors. With lower technological barriers for new energy vehicle technology, how to better achieve digital vehicle systems and digital production has become the main problem that today's car companies need to compete with. With the advancement of China's manufacturing transformation and upgrading and industrial structure optimization, the traditional automobile industry has to accelerate digital transformation to adapt to new market demand and competitive environment.

3.7. Organizational Factors

Traditional car companies have established specialized digital departments and teams to promote the implementation and management of digital transformation. These departments and units are responsible for coordinating, managing, and supervising the application of digital technology throughout the entire enterprise. Due to the inertia and culture of traditional organizations, the speed of digital transformation has been slow, and progress has yet to be as expected [5]. Therefore, General Motors must constantly adjust and improve its organizational structure and culture to better cope with the challenges of digital transformation. General Motors has established new digital departments and teams in digital transformation. The tasks of these departments and units are to formulate digital transformation strategies, restructure organizational structures, and update processes and business models to better cope with the application of digital technology.

3.8. Market Factors

Market demand is the driving force of digital transformation, and consumers' demand for digital products and services is an important reason why car manufacturing companies are accelerating their digital transformation. The increasing demand consumers for intelligent and electric vehicles has prompted many car manufacturing companies to accelerate their digital transformation and launch more intelligent and electrified car products and services.

4. Digital Transformation Practice: Comparative study

In this part, GM and VW will be used to compare different strategies, practices, and results of different traditional automobile enterprises in digital transformation, from which the best digital transformation practices of customer life cycle management will be obtained.

4.1. Digital Transformation Practice of General Motors

4.1.1. Digital Marketing Strategies of GM

General Motors (GM) has implemented various digital marketing strategies to enhance its online presence and improve the customer experience. GM has been innovative in its social media marketing approach, using multiple strategies to engage with its audience and stay relevant in a constantly changing digital landscape [6]. One such strategy is real-time engagement, where GM actively

DOI: 10.54254/2754-1169/33/20231652

responds to customer inquiries and feedback on social media platforms in real time. Another effective strategy is influencer partnerships, where GM collaborates with influencers to promote their brand and products on social media.

Digital user experience. Digital user experience is another key area of focus for GM's digital marketing strategy. GM has implemented in-vehicle mobile payments for gas and parking, providing customers a more convenient and seamless experience [7]. Additionally, GM has developed mobile apps that allow customers to quickly access information about their products and services, optimized their website for mobile devices, and launched an online car-buying service called "Shop. Click. Drive." that allows customers to complete the entire car buying process online.

Email marketing. Email marketing is also an essential component of GM's digital marketing strategy. GM uses targeted email campaigns to reach specific segments of its audience with personalized messages [8]. This approach helps to create a customized experience for the recipient. It improves the chances of engagement and uses various targeting options such as demographics, interests, and behaviors to ensure that its messages reach the right people. Additionally, they use A/B testing to optimize their email campaigns and improve engagement rates.

Search engine marketing. Search engine marketing (SEM) is another key component of GM's digital marketing strategy. As reported by Investopedia, GM uses SEM techniques such as search engine optimization (SEO) and pay-per-click (PPC) advertising to increase its visibility in search engine results pages (SERPs) and drive traffic to its website [9]. GM's search engine marketing strategy is paid search advertising through platforms such as Google Ads. This approach allows GM to target users actively searching for specific keywords related to their products and services. They focus on targeting potential customers through search engine advertising and SEO techniques.

Mobile marketing. Mobile marketing is also an important area of focus for GM. Mobile advertising spending in the automotive industry is expected to reach $9.45 billion in the US in 2021 [10]. GM utilizes mobile marketing to engage with customers on their mobile devices. They have developed mobile apps that allow customers to easily access information about their products and services, invest in mobile advertising, and optimize their mobile device website.

After-sales service offerings. GM has implemented various digital strategies to enhance its after-sales service offerings. As reported by General Motors, they have developed online portals where customers can schedule service appointments, view maintenance records, and receive personalized recommendations based on their vehicle usage patterns.

4.1.2. Mobility Services

GM has also focused on developing mobility services, such as ridesharing and car-sharing, which has helped the company diversify its revenue streams and adapt to changing consumer preferences.

Overall, GM's digital marketing strategies have successfully engaged with its audience on social media and built a strong online presence. By leveraging innovative approaches and technologies, GM has connected with its target audience, increased brand awareness and online visibility, and attracted more potential customers.

4.2. Digital Transformation of Volkswagen

4.2.1. Digital Marketing Strategies of Volkswagen

Volkswagen has implemented a multifaceted digital marketing strategy focused on utilizing mobile apps, building electric vehicle charging infrastructure, and engaging with customers on social media. The Volkswagen Connect mobile app offers comprehensive services, including statistics-based emergency services, appointment scheduling, navigation, and driving style analysis. Volkswagen is also working with other automakers to build IONITY, Europe's high-power charging infrastructure

DOI: 10.54254/2754-1169/33/20231652

for electric vehicles. In addition, Volkswagen is using social media platforms for exciting activities, such as developing a racing game featuring all its models. These digital marketing strategies have helped Volkswagen improve customer engagement, increase brand awareness, and remain competitive in the digital age of the automotive industry.

Digital Mobile Services. Volkswagen We and Volkswagen Connect are mobile applications established by Volkswagen in the context of external digitalization. They are intended to showcase the Volkswagen brand and its ability to meet the demands of the digital age to continue operating successfully in the market. Volkswagen Connect is Volkswagen's most comprehensive customer digital software, offering direct access to a 24-hour national emergency service, safety fault service, Volkswagen service hotline, authorized repair centers, appointment scheduling, navigation, and driving style analysis, fuel-saving, and efficiency challenges based on statistical data [11]. With over one million users, Volkswagen Connect has proven to be a success in Volkswagen's digital strategy, facilitating better customer interactions and services. These digital tools will continue to play an increasingly important role in meeting customer needs and ensuring Volkswagen's leading position in the competitive market.

Construction of offline facilities. Volkswagen has seized the most critical infrastructure construction during its digital transformation marketing process, by Volkswagen Group Annual Report 2020. With the increase in the proportion of electric vehicles in the digital transformation process and the more efficient data transmission of electric vehicles, Volkswagen, with BMW, Daimler, and Ford, established IONITY. The organization aims to provide high-power charging infrastructure for the European electric vehicle market. As of early 2021, IONITY has established more than 300 charging stations in Europe and plans to expand its charging network in the coming years [12]. IONITY's charging stations also feature digital technology applications. For example, IONITY's charging stations are equipped with high-definition touchscreen displays that display charging progress, prices, and other information, making it easy for users to inquire and operate. In addition, IONITY's charging stations can be remotely monitored and managed through applications, such as remotely detecting the health status of charging machines and improving the reliability and stability of charging stations. At the same time, with the popularization of this platform, Volkswagen's driving experience has been greatly improved, helping European consumers to be more willing to accept the demand for electric vehicles due to carbon neutrality requirements.

Social media platforms. Volkswagen's digital transformation marketing strategy also utilizes social media platforms, offering exciting events and other activities to create a differentiated advantage over other car manufacturers. When Volkswagen launched its new Scirocco R car in 2017, it developed a racing game with Fishlabs [11]. The competition included all of Volkswagen's car models, which was attractive to users, given Volkswagen's ownership of Audi, Porsche, Bentley, Lamborghini, MAN, Scania, and Ducati. Users could experience all of Volkswagen's car models in the game and receive updates as new cars were released. This approach allowed Volkswagen to promote its brand and generate engagement on social media platforms while maintaining long-term brand awareness. Fishlabs' Sports Car Challenge generated 15 million minutes of brand engagement for Volkswagen and received 1.5 million iOS downloads in two weeks when it was initially released [13].

4.2.2. After-sales Strategy and Actions

Volkswagen offers its customers a variety of service packages, including roadside assistance, maintenance, and repair services, designed to provide peace of mind and ensure that their vehicles remain in top condition.

DOI: 10.54254/2754-1169/33/20231652

Service Packages. Volkswagen offers its customers various service packages, including roadside assistance, maintenance, and repair services. These packages are designed to give customers peace of mind and ensure their vehicles remain in top condition.

Digital Services. VW has also developed a range of digital services, such as VW Connect and We Park, which have helped the company enhance the customer experience and increase customer loyalty.

Digital Service Booklet. Volkswagen has developed a digital service booklet that provides customers with detailed information about their vehicle's maintenance history, warranty, and other essential details. This digital service booklet can be accessed through the Volkswagen app or the customer portal on the VW website.

Online Service Booking. Volkswagen has made it easy for customers to book their service appointments online. Customers can go to the Volkswagen website or app, select the type of service they need, and book an appointment at a convenient time and location.

Overall, Volkswagen's digital marketing and after-sales strategies are designed to provide its customers with a seamless and personalized experience. By leveraging technology and data analytics, Volkswagen has built strong relationships with its customers and ensured their satisfaction even after purchasing the vehicle.

4.3. Comparative Analysis

Both GM and VW have invested heavily in digital marketing, which has helped them increase their online presence and engage with customers. And both GM and VW have focused on developing mobility services, such as ridesharing and car-sharing, which reflect consumers' changing needs and preferences.

GM and VW have taken different approaches to digital transformation, but they share some common themes, such as digital marketing and mobility services. There are many similarities and differences between GM and Volkswagen in terms of digital transformation. GM uses real-time interaction and social media marketing strategies in its digital marketing to improve its online presence and customer experience. In addition, GM's digital marketing strategy includes aspects such as email marketing, search engine marketing, and mobile marketing. On the other hand, Volkswagen focuses its digital marketing strategy on developing mobile applications, building electric vehicle charging infrastructure, and social media interaction. In addition, Volkswagen's after-sales service, which includes roadside assistance, maintenance, and repairs, also focuses on developing digital and online booking services to increase customer satisfaction and loyalty.

5. Discussion

OEMs need to optimize digital touchpoints, promote their digital channels, and build systems to manage online operations. Consumers have moved to new retail and want an all-digital experience in both car buying and car after-sales, so OEMs need to implement a customer-centric differentiation strategy to design unique customer experiences based on the entire vehicle life cycle. OEMs should recognize these changes in consumer behavior, change their sales network, and pay attention to cooperation with 4S stores. Online channels are critical when consumers use various channels to collect information about their vehicles [15].

5.1. Nurture Leads

Lead nurturing refers to engaging, supporting, and building meaningful relationships with prospective customers by providing appropriate and relevant content and information at every stage of the buyer’s journey. As shown in Figure 1, nurtured leads make 47% more purchases than non-nurtured leads.

DOI: 10.54254/2754-1169/33/20231652

Even qualified leads need nurturing. More than half of the respondents to our latest survey report that 40-70%+ of their qualified leads aren't yet ready to buy [14].

Figure 1: Qualified Leads are not Ready to Buy [14].

5.1.1. Combine Email Marketing with Video Marketing

One of the most effective digital marketing strategies nowadays is a combination of video and email marketing. As shown in Figure 2, nearly two-thirds of people said email nurturing was the best way to re-engage leads [14].

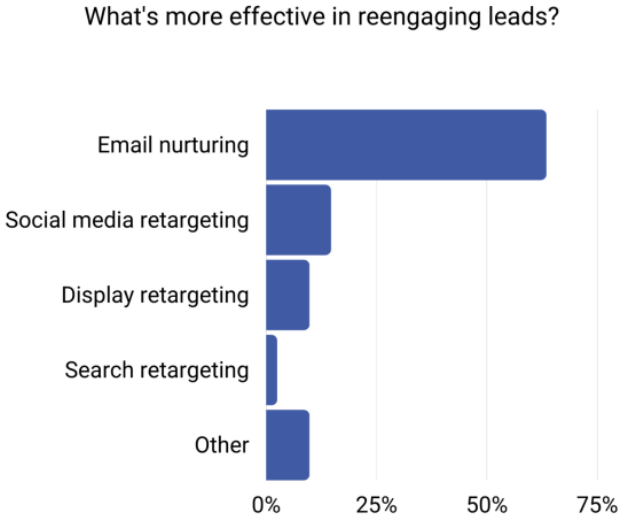

Figure 2: Email Nurturing in Reengaging Leads [14].

By combining email and video marketing, tools like Wistia and Vidyard can deliver higher-quality video content. Thus, making leads easier to digest. If the customers open their computers in the morning and log in to QQ, an email pops up in the lower right corner, the subject is about a new MV video of their favorite band, and they would not close the email. And probably be glad about this all day. That is why many companies now insert videos into emails - just one video strengthens consumer relationships. This is also why video email marketing strategies are so effective. Businesses can build

DOI: 10.54254/2754-1169/33/20231652

stronger customer relationships, generate leads, and improve their brands by embedding videos and themes.

5.1.2. Marketing Automation Software and CRM Integration

Marketing automation software and CRM are integrated to track how much time leads spend watching videos, and this data can be used to set triggers that inform the sales team to cultivate the most leaders.

5.1.3. Split Email List

This is achieved by subdividing the email list with the tags of the potential customers captured earlier and then sending a personalized email. This leads to better participation rates, more clicks, and more conversions.

5.2. Digital Touchpoints

When consumers start thinking about buying a car, they often have ICS-initial thought set, and about 50% of final sales come from ICS, so OEMs must proactively penetrate the consumer's ICS. Consumers often build their ICS based on the passively acquired information, so attention must be paid to consumers' subconscious cultivation of car brands [15]. In China today, automotive vertical websites are the most important, and the influence of online video platforms and social media networks is also on the rise. Consumers increasingly rely on online resources for information about brand perception, car prices, car appearance, and after-sales service [15]. Especially under the influence of COVID-19 and lockdown, many OEMs and 4s stores, such as Audi, pay more attention to their live online marketing activities.

5.2.1. Social Media Marketing - Live Streams

The analysis of a research report on China's automotive marketing industry in 2020 found that 74% of users are watching live streams to make car purchases. Live car marketing provides a good communication platform for companies and consumers and promotes brand awareness. Besides, among the live-streaming platforms, Tiktok is the most used.

Determine the positive theme and cater to the current consumer taste. In the face of changes in the mood of society at large and changes in market consumption trends, the live stream revolves around the emotional pain points of most users, carries out emotional care, and initiates positive energy advocacy.

4S store staff can further provide services. For instance, as a door-to-door test drive and onboard marketing negotiation for users active in the live stream room according to customers' needs to match the current fast-paced life and promote the signing of orders.

5.2.2. Private Traffic Operation

Between 25% and 40% of respondents prefer interacting directly with OEMs throughout the purchase. Therefore, traditional automobile manufacturers can create innovative service modes by improving customer operation. But the reality is that most OEMs need to provide consumers with the expectations they meet, so OEMs should focus on closing this gap. Direct interaction with consumers can be increased by using apps of auto brands, which should focus on private sector operations.

Using applications to optimize to achieve full customer lifecycle management. From user registration to user viewing, buying, and after-sales.

DOI: 10.54254/2754-1169/33/20231652

Marketing and promotion of social attributes of private applications in the public domain. For instance, TikTok. Introduce customers to the applications and actively promote the community operation of the APP to form a social ecosystem. Even car owners can participate in interest groups and post so that potential customers can be in the ecological environment and see comments from car owners more directly. In this process, individuals will give more positive comments to the interest group and classify themselves as group member. Besides, NIO takes APP as its core platform online and organizes offline fan and user activities such as NIO house and NIO SPACE to attract users to participate in brand building and achieve co-creation with users. With the accumulation of more and more users, every active user knows the brand, recommends the brand, and is proud of the brand. These users will become an important asset and driving force for the NIO.

5.3. Improve MROI (marketing return on investment)

It should also be noted that OEMs should take a more holistic, customer-centric approach to balancing old and new, online, and offline metrics, rather than just launching apps or opening online stores. OEMs need to improve marketing return on investment (MROI) by, for example, comparing MRO is of different channels when building a sales network. To compare the Marketing Return on Investment (MROI) of other channels when establishing a sales network, automotive companies can follow the following steps.

5.3.1. Identify key performance indicators (KPIs).

Automotive companies need to determine which indicators are critical to the success of their business, such as sales volume, market share, brand awareness, etc. [16].

5.3.2. Collect data

Automotive companies need to gather investment and performance data for different channels, including advertising costs, sales figures, market share, etc. [17].

5.3.3. Calculate MROI

Automotive companies can calculate the MROI for each channel using the following formula: MROI = (Gain from Investment - Cost of Investment) / Cost of Investment [17].

5.3.4. Perform comparative analysis

By comparing the MROI of different channels, automotive companies can determine which channel has the highest investment return and formulate a more effective marketing strategy [16].

6. Conclusion

Various political, resource, economic, social, technological, competitive, organizational, and market factors influence the digital transformation of traditional automotive manufacturing companies. Both General Motors and Volkswagen place great importance on digital transformation and have adopted successful strategies in marketing. These practices can be a reference for other car manufacturers and companies looking to leverage digital technology to improve business efficiency and customer experience. GM and Volkswagen have effectively driven digital transformation by increasing their online presence and customer satisfaction, enhancing brand awareness and loyalty through various digital marketing strategies. However, digital transformation still faces challenges, such as organizational culture, talent recruitment and development, technology updates, and security.

DOI: 10.54254/2754-1169/33/20231652

Traditional automotive manufacturing companies need to understand the market and customer needs in the digital era and develop digital marketing strategies accordingly to improve their competitiveness and productivity.

References

[1] *Deloitte Homepage, https://www2.deloitte.com/us/en/pages/consumer-business/articles/global-automotive-consumer-study.html.last accessed 2023/01.*

[2] *Stone, M., Foss, B., Henderson, I., Irwin, D., O'Donnell, J., Woodcock, N.: The quality of customer information management in customer life cycle management. Journal of Database Marketing & Customer Strategy Management, 10, 240-254 (2003).*

[3] *Llopis-Albert, C., Rubio, F., Valero, F.: Impact of digital transformation on the automotive industry. Technological forecasting and social change, 162, 120343 (2021).*

[4] *Farooqi, M., Raza, K.: A Comprehensive Study of CRM through data mining Techniques. arXiv preprint arXiv:1205.1126 (2012).*

[5] *Intelligent Automation Network Homepage, https://www.intelligentautomation.network/transformation/articles/digital-transformation-runs-deep-at-general-motors, last accessed 2021/08/12.*

[6] *Industry Dive Homepage, https://www.mobilemarketer.com/ex/mobilemarketer/cms/news/advertising/20038.html, last accessed 2015.*

[7] *Autonews Homepage, https://www.autonews.com/article/20180104/OEM06/180109903/gm-adds-in-vehicle-mobile-payments-for-gas-parking, last accessed 2018.*

[8] *Intelligent Automation Network Homepage, https://www.mobilemarketer.com/news/how-gm-uses-location-based-marketing-to-drive-store-visits/552903/, last accessed 2019/04/17.*

[9] *Investopedia Homepage, https://www.investopedia.com/terms/s/search-engine-marketing-sem.asp, last accessed 2021/05/18.*

[10] *Emarketer Homepage, https://www.emarketer.com/content/us-digital-ad-spending-by-industry-2021, last accessed 2021/06/19.*

[11] *Xueqiu Homepage, https://xueqiu.com/9508834377/136821476, last accessed 2019/12/04.*

[12] *Volkswagenag Homepage, https://www.volkswagenag.com/en/news/2021/11/strategy-2-0--ionity-accelerates-expansion-of-its-fast-charging-.html, last accessed 2021/11/24.*

[13] *Pocketgamer Homepage, https://www.pocketgamer.biz/news/36330/fishlabs-sports-car-challenge-generates-15-million-minutes-of-brand-engagement-for-vw/, last accessed 2011/12/20.*

[14] *Databox Homepage, https://databox.com/lead-nurturing-strategy, last accessed 2023/03/17.*

[15] *Mckinsey Homepage, https://www.mckinsey.com, last accessed 2021/07.*

[16] *Mckinsey Homepage, https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/measuring-marketing-success-using-metrics-that-matter, last accessed 2021/11/29.*

[17] *Kumar, V., Reinartz, W.: Customer relationship management. Springer-Verlag GmbH Germany, part of Springer Nature 2006, (2018).*