

INNOVATIONS IN ANALYTICS AS A MARKETING TOOL, AS AN EXAMPLE OF CAR INSURANCE

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The article is devoted to the study of the current state and trends in the development of innovations in analytics as a marketing tool in the context of global digitalization. The development of digital technologies allows companies to use more opportunities to conduct their activities, improve their products and offers. Significant interest in innovations in analytics is revealed by high scientific interest in this topic among researchers. The current state of the car insurance market, the influence of analytical innovations in marketing on the processes of market functioning, products and offers of companies are considered. The main areas of digitization of the industry were identified: the implementation and use of Big Data for risk reduction and detailed study of service consumers, monitoring of the actual use of insurer services by customers using IoT devices and the help of artificial intelligence for data processing and ideas for implementing changes. A detailed description of the essence of each of these innovations is given and the practical use of some of these methods of digitization of the industry by foreign and Ukrainian companies is indicated. The activities of the best examples of the use of Big Data, IoT technologies, work with artificial intelligence by the world's leading insurers and compared with the current set of innovative, analytical tools used by Ukrainian companies are considered. It has been studied that foreign insurers use more innovative measures in analytics than Ukrainian ones. The strengths and weaknesses of insurtech innovations in analytics, in the field of auto insurance, are determined. Taking into account the conducted analysis, practical recommendations are provided regarding possible ways to expand innovation methods for use by Ukrainian insurance companies, possible options for cooperation with enterprises of other fields are determined for a more detailed market analysis and study of consumer requests. As a result of applying the recommendations presented in the work, Ukrainian insurers will be able to better analyze potential and existing customers, reduce possible risks, adapt their products to the received data and personalize, improve offers, which will help to be competitive in the market.

Keywords: innovations in analytics, insurtech, analytics in marketing, car insurance, digitalization, Big Data, IoT technologies.

ІННОВАЦІЇ В АНАЛІТИЦІ, ЯК ІНСТРУМЕНТА МАРКЕТИНГУ, НА ПРИКЛАДІ АВТОСТРАХУВАННЯ

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Стаття присвячена дослідженню сучасного стану та тенденцій розвитку інновацій в аналітиці, як інструмента маркетингу в контексті глобальної діджиталізації. Розвиток цифрових технологій дозволяє використовувати більше можливостей компаніям для ведення своєї діяльності, покращення своїх продуктів та пропозицій. Значну зацікавленість щодо інновацій в аналітиці виявлено високим науковим інтересом до даної тематики серед дослідників. Розглянуто сучасний стан ринку автострахування, вплив аналітичних інновацій в маркетингу на процеси функціонування ринку, продукти та пропозиції компаній. Виявлено основні напрямки діджиталізації галузі: впровадження та використання Big Data для зменшення ризиків та детального вивчення споживачів послуг, відслідковування фактичного використання клієнтами послуг страховика за допомогою IoT пристроїв та допомога штучного інтелекту для обробки даних та ідей щодо впровадження змін. Наведено детальну характеристику сутності кожного з цих інновацій та вказано на практичні використання іноземних та українських компаній частини з цих методів діджиталізації галузі. Розглянуто діяльність найкращих прикладів використання Big Data, IoT-технологій, роботи зі штучним інтелектом провідними страховиками світу та порівняно з поточним набором інноваційних, аналітичних засобів, що використовують українські компанії. Вивчено, що іноземні страховики використовують більше інноваційних заходів в аналітиці, ніж українські. Визначено сильні та слабкі сторони іншуртех-інновацій в аналітиці, у сфері автострахування. Враховуючи проведений аналіз надано практичні рекомендації щодо можливих способів розширення методів інновацій для застосування українськими страховими компаніями, визначено можливі варіанти співпраці з підприємствами іншої сфери задля більш детального аналізу ринку та вивчення запитів споживачів. В результаті застосування наведених в роботі рекомендацій українські страховики зможуть краще аналізувати потенційних та наявних клієнтів, зменшувати можливі ризики, адаптувати свої продукти для отриманих даних та персоналізувати, покращувати пропозиції, що допоможе бути конкурентоспроможними на ринку.

Ключові слова: інновації в аналітиці, іншуртех, аналітика в маркетингу, автострахування, діджиталізація, Big Data, IoT-технології.

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INTRODUCTION

The insurance market, like any other industry, is constantly developing and improving, taking into account technological and innovative changes that can be used to develop the industry. Analytics plays one of the key roles in the successful application of marketing measures and the functioning of the insurance market as a whole. The use of analytical tools in marketing creates a foundation for a detailed understanding of the market, the target audience, competitors, strengths and weaknesses, allows better configuring marketing campaigns, monitoring their results, drawing conclusions, etc. In addition, modern innovative solutions make it possible to better assess risks with the help of Big Data, improve offers due to the use of IoT devices, artificial intelligence with their further analysis, as well as adapt the company's products based on analytical data collected from actual customer use. Historically, innovation in analytics has occurred all the time. Previously, basic analytics was conducted on the basis of surveys, observations and physical records, then electronic reporting systems appeared, currently electronic databases, modeling and forecasting systems, Big Data, etc. are being used and improved. Improvement takes place constantly, taking into account the needs of the market and the availability of the necessary technologies. The current development of analytical tools is aimed at a detailed study of the client, his behavior, additional data collected from the information systems of partners in other industries. These data allow the company to better understand the behavior of customers, their needs and capabilities. The more the company knows about its customers, the better conditions it can offer, the more new customers it can attract, understanding their needs and preparing the right offers. The use of modern technologies opens up new opportunities for companies in the insurance industry. In addition, companies that are the first to start using innovations in analytics will be able to significantly strengthen their competitiveness, take leading positions in the market, improve their image, etc.

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS

The topic of innovation in analytics as a marketing tool is a topical topic due to its modernity and the need to study it. This topic reveals the need to follow development trends in order to better understand the users of their products and improve the competitiveness of companies. The topic is considered in different contexts, which contributes to the expansion of knowledge about innovations in analytics. Some researchers, for example O. Marchuk, concentrate their attention on the study of modern digital marketing tools, paying attention to an important tool of modern marketing - analytics based on the use of statistics to improve products and company offers [1]. The research of O. Melnychenko focuses on the role of marketing innovations in increasing the competitiveness of the enterprise, considering data analytics and artificial intelligence as the main tools for ensuring the reliable competitiveness of modern enterprises [2]. The work of Y. Fisun, O. Borysenko, and O. Yarmolyuk is aimed at researching innovations in marketing research, the importance of artificial intelligence in the process of research, and modern approaches to organization in working with innovative tools [3]. Other researchers, such as T. Grekova, emphasize in their work the importance of using Big Data as an analytical tool in the organization of enterprise work. The author emphasizes that innovative research methods, such as Big Data analytics, are becoming a necessary part of marketing strategies. Big data analytics allows companies to gain deep insights and develop effective marketing strategies, increasing their competitiveness [4]. The research of V. Romanyuk and M. Naychuk-Khrushch also points to the importance of using modern analytics technologies, in particular, Big Data in the process of planning, developing and implementing marketing campaigns. Separately, researchers study systematic instructions for working with big data and the possibility of its use not only in marketing, but also in other areas of company activity, in particular, management [5]. The work of S. Legenchuk and T. Zavalii consists in researching the use of Big Data in marketing analytics. The paper identifies and characterizes the prospects and opportunities for the development of marketing analytics using Big Data: improving the management of the client experience, improving the positioning of enterprises, optimizing the marketing budget and increasing the effectiveness of predictive analytics [6]. Foreign authors also claim that the functioning of the insurance market will also include the development and implementation of innovative technologies

in the analytics of insurance companies. For example, researchers N. Milanovic, M. Milosavljevic, S. Benkovic, D. Starcevic and Z. Spasenic in their work note that the main direction of the future development of activities in the field of insurance will be based on technologies such as IoT, cloud computing, chat bots and artificial intelligence, blockchain technologies, robot consultants and Big Data [7]. In the work of W. Weidner, F. Transchel, and R. Weidner, the possibility of the impact of IoT devices and the telematics unit on the pricing of insurance tariffs due to the different profile of car use by policyholders is investigated [8]. Scientists are also investigating the impact of artificial intelligence on the processes of insurance companies. The work of N. Kumar, J. Srivastava and H. Bisht defines the advantages of using artificial intelligence as one of the types of innovation that can be used by insurance companies [9].

Given the development of new technologies and innovations in analytics as a marketing tool, companies operating in the insurance industry need to adapt to new changes. In order to maintain a confident competitive position, enterprises need to implement innovative approaches to analytics: use Big Data to deeply analyze the current state of product user behavior, assess risks, make personalized offers, and adapt marketing campaigns taking into account customer behavior. In addition, it is also important to work with artificial intelligence, IoT technologies and other innovative tools in order to obtain relevant statistics on the use of the company's products and create correct conclusions about this use. Such measures can improve the competitiveness of the enterprise, increase the number of customers and revenues due to a better understanding of user needs. Companies that do not follow modern trends in the development of analytics in marketing will not be able to work effectively in the market and over time will deteriorate their competitiveness.

The purpose of this study is to analyze the current state and possibilities of using analytics tools by companies in the insurance industry. In order to achieve this aim, the work has the following goals: to investigate the theoretical possibilities of applying innovative analytical tools by insurance companies. Analyze the actual tools used by the world's leading insurance companies and the available analytical tools of Ukrainian enterprises: study the activities of the best examples of the use of Big Data, IoT technologies, work with artificial intelligence by the world's leading insurers and compare with the current set of innovative, analytical tools used by Ukrainian companies. In addition, it is necessary to study the possibilities and ways of development of leading analytical tools by Ukrainian companies: to analyze the implementation of possible innovative tools based on cooperation with Ukrainian companies in other fields of activity, in order to attract the necessary data for conducting more accurate statistics and risk assessment. This approach will help to get a deeper and scientific understanding of the current state and the possibilities of introducing innovative technologies into the processes of the insurance industry enterprises.

RESEARCH RESULTS

The insurance industry was considered one of the most conservative in terms of digital development. But the market is constantly improving and changing according to new market requirements and customer needs. Previously, it was difficult to imagine that it is possible to conclude an insurance contract without physical contracts, paper documents and the need to visit the offices of companies, and settling an insurance case and receiving a payment can take several minutes. However, global digitization has not bypassed the insurance sphere, and insurtech is becoming one of the most actively developing branches of the digital economy.

Insurtech (Insurance Technology) is the implementation of IT innovations in the insurance industry. IT innovations, as a rule, include the development and implementation of artificial intelligence, developments in the field of cyber security, analysis of large volumes of data, creation of applications for smartphones, etc. [10].

The introduction of insurance technologies significantly simplifies the processes of interaction between the insurer and consumers: conclusion of the contract, receipt of insurance payments, maintenance in the process of providing the service, etc. [11]. The introduction of other technologies into conventional insurance products especially wins the trust of the young audience, which does not want to cooperate with "old-style" insurance companies.

For a detailed analysis, let's take into account car insurance, as one of the most popular types of insurance on the market. Currently, in the field of auto insurance, the development of the following areas of other technological innovations is popular [12, 13]:

- use of artificial intelligence and machine learning for a more effective risk assessment system, customer segmentation and more accurate individual offers;
- use of Big Data for better risk assessment, accuracy of analytics, determination of consumer needs and market conditions;
- providing customers with more opportunities for independent configuration and change of products;
- transformation of products into the format of electronic policies;
- use of mobile applications;
- blockchain technologies for data management, which will help ensure data security and minimize fraud risks;
- development of cooperation between insurance companies and other tech startups;
- platformization – use of platforms to optimize business processes and improve the client's experience of using the resources of insurance companies.

For the correct use of Big Data, insurance companies need to have their own software, cloud solutions and tools that allow to fully use the functionality of large databases. If the insurer cannot have such a set of tools, there is an opportunity to cooperate with other technological companies that have relevant and necessary databases of a large part of consumers of insurance services. These can be mobile operators, government structures, banks, owners of cloud solutions, etc. An insurance company can receive the necessary information from partners and use it to analyze potential and actual policyholders. Access to such information will provide insurers with the opportunity to assess the risk of potential customers, have an understanding of their reliability, get a correct portrait of the consumer and attract similar consumers to use their services. If the insurance company nevertheless has its own solutions and properly uses Big Data, it is possible to obtain an accurate profile of the insurer's services consumed by clients, better assess their needs, adapt their own services to consumer requests, make forecasts and understand trends [14, 15].

The use of IoT technologies, largely, involves a partnership with a device manufacturer for their further installation in the cars of policyholders. Such devices fill the company's databases with a profile of the use of insurance services by clients, allow real consumption assessment, rely on this information when developing tariffs and services, and open the possibility for insurers to personalize them depending on the use of each client. Thus, the insurance company can offer tariffs with individual prices, based on the frequency of use of the car, driving style, average speed, etc. Consumers of insurance services will have an additional opportunity to influence the cost of the policy and save on the insurance tariff in case of careful driving. In addition, insurance companies can cooperate with other tech startups to use the latest technologies in their own services first on the market. This would allow policyholders to have additional opportunities and advantages, and insurers the opportunity to use innovative devices, modern software to improve their own internal and external services. Thus, insurers in an intensive market, in addition to improving their own processes, could additionally attract new customers and improve their own competitiveness due to partnerships and the introduction of insurtech startups [14, 16].

Artificial intelligence can be used by insurance companies to improve the process of risk assessment (for example, in underwriting work), to track dependencies in the behavior of policyholders, monitor the consumption of insurance services by customers, more effectively segment customers and personalize tariffs. An example of a successful application of artificial intelligence by an insurance company – when IoT devices fill the insurer's databases with the actual behavior of policyholders, the artificial intelligence automatically analyzes the received data and determines the differences from standard usage with the reasons for these differences and correctly segments consumers according to the volume of service consumption for better individual offers. Also, the use of artificial intelligence will help to build a forecast of future use, changes in the market and understand trends. In addition, an example of the successful use of artificial intelligence can be

when an underwriter evaluates a potential insured through its own analysis and additional analysis by artificial intelligence of available facts about the client with a further conclusion on the possibility of accepting such insurance risks. Such a process would serve as an additional stage of analyzing potential clients before accepting their risks as your responsibility. Machine learning will help the insurer's artificial intelligence and existing software to have certain decision templates based on the received data and automate the decision-making process, risk assessment, dependence determination and consumption profiling without the influence of insurance company employees. Blockchain technologies would allow insurance companies to better protect their own data and minimize their own risks through additional protection and analysis capabilities [17].

External platformization means the creation of a single platform for all insurer services with the possibility for policyholders to have all the functionality of the insurance service in any convenient place: website, mobile application, partners' resources, etc. Internal platformization means the creation of a single internal adapted platform with partner services. If the insurer cooperates with partners in the field of data acquisition, data analysis and data processing for the convenient use of this data on a single company platform. This allows employees and internal services of the insurer to quickly receive and process data to provide correct services to clients [18].

The most relevant in the car insurance market are the directions of innovation aimed at [17, 19]:

- on customer notification systems, with the help of which surveys, reminders, and sales of insurance products are conducted. This function will be more automated;
- to improve the processes of insurance payments, their optimization;
- on conducting remote monitoring of cars – insurance objects using IoT devices;
- to solve marketing problems (analytics, customer segmentation, measurement of customer loyalty, determination of the exact user profile), etc.;
- to improve the process of risk assessment and personalization of product offers.

An example of a foreign company using new technology in the field of insurance is the project of the American insurance company Metromile [20]. The goal of the project is to provide affordable auto insurance options for drivers by paying only for the miles they drive. The software, developed by the insurance company, allows company to measure the distance and fuel consumption and, based on these indicators, make payments for car insurance. Thus, the insurance tariff is calculated individually depending on the distance traveled by the policyholder. This approach allows policyholders to significantly save on insurance policies.

Also, one of the examples of already implemented innovative technologies is the American insurance company "Progressive", which applies its telematics program based on the real use of transport by policyholders. Using telematics software and machine learning, the insurer can assess how the driver drives on each trip. This allows the insurance company to set the price more accurately on an individual basis, and this approach also rewards safer drivers with reduced premiums [21, 22]. To date, the company has conducted more than 1.7 trillion driver observations, and its pricing is based on the actual driving experience, rather than traditional factors such as where they live and type of cars. The insurer has also collaborated with a device maker called Zubie, which attaches to the car and helps the insurer track how well (or poorly) policyholders are driving [23]. The deal allows customers to see how an insurer will charge them based on driving data.

As of April 2024, Ukraine has 86 non-life insurance companies, 12 life insurance companies, and 39 insurance brokers [24]. Ukrainian insurance companies are currently lagging behind their foreign counterparts in the implementation of innovative technologies. Now, the following modern innovations are available on the car insurance market of Ukraine:

1. Issuing CASCO remotely. Although global breakthroughs and the introduction of insurtech have not been recorded on the motor car insurance market in Ukraine, it can already be noted that insurers are interested in the digital development of their own technologies and the market as a whole. Currently, a change has been implemented in the CASCO digitization process – providing policyholders with the opportunity to independently, remotely complete all the necessary applications for the CASCO contract. For example, before it was not possible to issue a contract without visiting the offices, visiting the car by an insurance agent. Currently, some Ukrainian insurers have introduced

the possibility of photo-fixation of the insured's car using a special application that helps the client to correctly photograph all the necessary areas of the car and additional equipment. However, such development is insufficient, because there are no less interesting ways to develop the process of attracting customers, their analysis and service [25].

2. The first Ukrainian insurer with CASCO payment per kilometer appeared. The only insurer that uses telematics to calculate the cost of the policy is "Arsenal insurance" and their separate insurance company, which is directed to the development and implementation of other tech startups "EasyPeasy" [26, 27]. The startup is aimed at users who use their vehicle less than the national average. In order for the insured not to pay the cost of the general insurance policy while his car is in the parking lot, he can take out an "EasyPeasy" policy and pay only when the car is used.

The insurer describes how this insurance model works in Ukraine:

1. The policyholder issues one of the three available policies on the company's official website or application. Policy options differ in the number of risks covered and the cost. The client needs to choose and pay a one-time payment;

2. The insurer undertakes to install a telematics device in the client's car free of charge within 24 hours without additional costs for him. This is a device that uses GPS and acceleration sensors (accelerometer) to collect information about when, where and how the car is used. The telematics unit collects driving statistics in real time, where the car is, how much it has driven.

3. The policy is ready. After paying the one-time payment, the policyholder will only pay for the kilometers he will drive during the term of the contract. The average cost per kilometer is UAH 1.3.

The insurance company also provides additional free services within the insurance policy:

- free evacuation of a car from the scene of a traffic accident;
- control of the car by any driver;
- franchise without wear and tear of parts;
- after driving 15,000 km, payment for 1 km is not made (within the policy).

But there are also restrictions, for example, cars no older than 2015 are accepted for insurance.

Taking into account that there are no breakthroughs in innovation on the market, and the only insurtech startup at the moment is EasyPeasy, the following options for insurtech development can be offered to the auto insurance market:

1. Use of Big Data from mobile operators to improve segmentation of marketing offers and assessment of customers for potential risk. Ukrainian insurers can cooperate, for example, with Vodafone, and receive data about existing customers (popular applications of use, location, interests, activity) to improve analytics, marketing activities, ways to attract customers similar to existing ones, etc. This can be implemented with the Vodafone Analysis program. Also, using the Big Data Scoring program from Vodafone, they can get a user rating and, for example, identify potential fraudsters before signing a contract or assess the potential occurrence of an insurance event [28, 29].

2. Tracking driving behavior for more personalized pricing. Insurers can collaborate with device manufacturers and install them in policyholders' cars to accurately analyze driving behavior and set individual offers based on the data. This will reduce the price of insurance for inactive or quiet policyholders and increase it for risky customers. For example, such a solution would be well suited to the scheme of work of the Ukrainian other tech startup "EasyPeasy".

3. Insurance companies can also use artificial intelligence for risk assessment, personalized rate proposals, fraud detection, loss prediction, improved analytics and customer service. The use of artificial intelligence in combination with IoT devices, partnerships with mobile operators and their Big Data capabilities will make it possible to make the most effective use of innovations not only in analytics, but also to improve offers and customer experience for policyholders.

The introduction of innovative technologies is a necessity for the successful competitive presence of companies on the market, because the insurance technology market itself is rapidly developing in the world, according to the Precedence Research agency, we can reflect the potential growth of the global market of insurance technologies [30].

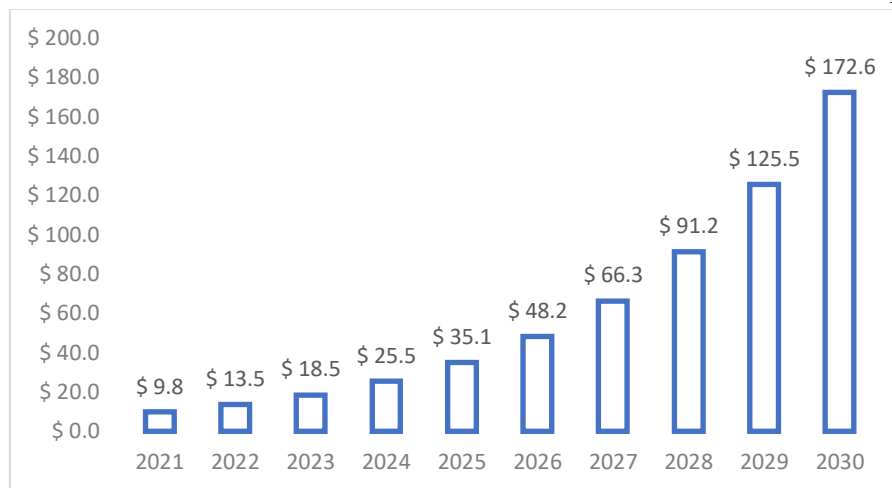


Figure 1. Forecast of the growth of the volume of the global market of insurtech, billion dollars.
Source: built by the authors based on [30]

From the above summary, we can see that by 2024, the volume of the global insurance technology market will amount to 25.5 billion dollars. The global insurance technology market was valued at USD 9.8 billion by 2021 and is expected to reach approximately USD 172.6 billion by 2030. Analyzing the growth of the volume of the global market of other technologies (2024 to 2030) - the average annual growth rate will be 38% [30].

It is possible to highlight the strengths and weaknesses of other tech innovations in analytics, in the field of car insurance. The strengths are:

- additional opportunities in analytics and marketing (risk assessment, more accurate profile, customer engagement);
- detection of potential fraudsters in the early stages;
- individual offers;
- control of policyholders.

Weaknesses are:

- complexity of implementation (creation of a single platform with parterres, involvement of technical and personnel resources);
- high cost of implementation;
- the unknown reaction of potential customers in Ukraine to the implementation of such technologies.

So, the main value of technological changes is that they are aimed at improving the analytical capabilities of companies, reducing potential risks, improving marketing activity, meeting customer needs, improving service quality, etc. These factors allow the insurance market to develop innovatively.

Considering the above data, it is extremely important for insurance companies to follow new trends and innovative changes in the market, to develop their analytical capabilities and product services, offers in accordance with the requests and expectations of policyholders. Using modern technologies, insurers can better understand the needs of potential customers and market requests, existing consumers, as well as individually calculate offers, increase sales, improve the customer journey and their own competitiveness.

The rapid evolution of the industry will be enhanced by the widespread adoption and integration of automation, deep learning, artificial intelligence and external data ecosystems. While no one can predict exactly what insurance may look like in 2030, insurers can take steps now to prepare for the changes.

CONCLUSIONS

The main value of innovative changes in marketing analytics is that they are aimed at improving the understanding of the requirements of the target audience and the market, reducing potential risks, meeting customer needs, improving the quality of service, and improving the effectiveness of marketing activities. In addition, the introduction of innovations in analytics as a marketing tool, using the example of auto insurance, allows insurance companies to respond more quickly to changes in user behavior, to offer more individual offers calculated on the basis of the behavior of a specific insured driver. Policyholders, in turn, have better conditions, a cheaper policy and the opportunity to influence its cost.

The implementation of such innovations primarily affects the effectiveness of marketing: creating a positive image of the company, conducting advertising campaigns and PR actions to advertise its services and popularize them among the target audience, cooperation with partners for market development, introduction of new technologies to attract potential policyholders, increase premiums, reducing fraud and increasing trust. Digital technologies are especially gaining the trust of a young audience that does not want to cooperate with "old-style" insurance companies.

It is extremely important for insurance companies to follow new trends and prospects in the market, to develop their services in accordance with the requests and expectations of policyholders. Using modern technologies, insurers can better understand consumer requests, individually calculate offers, increase sales, improve the quality of the customer journey and their own competitiveness.

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