# DIGITAL TRANSFORMATION AND SUSTAINABLE DEVELOPMENT OF AUTOMOBILE INSURANCE CLAIMS DEPARTMENTS

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## ABSTRACT

The automobile insurance market is a highly competitive market in the financial field, with a large capacity, high output value, and stable returns. In order to gain an advantageous position in the market competition, many automobile insurances related institutions are considering on how to provide good services and reasonably costs. However, due to the unique nature of the industry, there have been numerous difficult to solved problems in the claims departments of automobile insurance existing for a long time, such as difficulty in recruitment, training, high personnel turnover rate, and huge potential financial risks. This article analyzes and explores the operational characteristics of automobile insurance claims departments, and proposes feasibility analysis and suggestions for digital transformation in various aspects of the automobile insurance claims workflow, such as telephone customer service, accident scene investigation, accident vehicle loss appraisal, case reviews and, indemnity calculation. The aim is to improve the work efficiency of enterprises by reducing operating costs via introducing digital and network technologies, effectively avoiding the losses caused by various potential duty crimes, ultimately achieving the goal of improving customer satisfaction and enhancing the industry competitiveness of the enterprise are the main issues.

**Keywords:** A*utomobile insurance, claims departments, accident scene investigation, accident vehicle loss appraisal.*

## 1. Introduction

The automobile insurance market is a very important subdivision of the property insurance market. In 2020, global automobile insurance premium income was approximately $766 billion, accounting for 42% of the total property and accident insurance revenue. However, compared to other insurance products, the disadvantages of engaging in automobile insurance business are also obvious. The accident rate is high, the movement range is wide, the processing cycle of accident cases is short, and the damage situation is complex and diverse. Therefore, the automobile insurance claims department has always been a difficult point for insurance companies to manage.

The management models of automobile insurance claims departments vary in various countries around the world. Some are directly affiliated with property insurance companies, while others subcontract this part of the work to professional automobile insurance public valuation institutions. Regardless of the method used, the management of automobile insurance claims departments is an important factor in reducing the operating costs of automobile insurance companies and improving the service quality of automobile these insurance companies. In

today's era of digitization, intelligence, and networking, applying digital technology to the management process of car insurance claims departments and achieving digital transformation of management processes is the most effective way to guarantee for car insurance companies to improve market competitiveness.

## 2. The Impact of Digital Transformation on the Traditional Automobile Insurance Claims Industry

The digital transformation of the car insurance claims department can rapidly improve employee work efficiency, effectively enhance customer satisfaction, and significantly improve the company's competitiveness in the market. Of course, digital transformation also requires a process, and priority should be given to guiding funds and technology to start from the link that is most conducive to the operation of car insurance claims enterprises and gradually promote it.

### 2.1 Digital transformation can accelerate the work process of car insurance claims departments

In order to ensure customer satisfaction in the automobile insurance claims industry, a very important indicator for evaluating the quality of claims work by various automobile insurance companies is the "closing cycle". That is the average time from reporting to paying compensation for each case within a certain period of time. The duration of the closing cycle depends on the efficiency of each work link, as well as the connection and cooperation between each work link. And digital AI and networked technology have unparalleled advantages in this regard, with fewer errors, higher efficiency, and more accurate calculations compared to manual labor.

### 2.2 Digital technology can improve the profitability of the automotive insurance claims industry

The operating profit of a car insurance company is actually the difference between sales revenue and the current year's car insurance claim expenses. The sales revenue here is generally completed by the car insurance sales department, and the car insurance claim expenses are all reflected in the operating costs of the car insurance claim department. Except for extreme weather in certain individual years, under normal circumstances, the operation of car insurance companies is relatively stable. The proportion of claims costs for various car insurance companies mainly comes from the differences in the proficiency of staff in their daily work and the accuracy of judgments on various accident losses. By adopting digital AI technology, the number of staff in various positions can be significantly reduced. By utilizing computer-aided recognition and teaching functions, the job skills of staff can be effectively improved and losses caused by work errors can be reduced.

### 2.3 Digital technology can reduce operational risks in the automotive insurance claims industry

The biggest operational risk faced by the automobile insurance claims industry is false claim cases. Every year, the losses caused by the various false cases claims exceed half of the expected profits. By using digital technology, it is possible to conduct a detailed review of cases and avoid all kinds of omissions caused by the busy daily work tasks of staff.

## 3. Job positions in traditional car insurance claims companies

To complete the digital transformation of the car insurance claims department, it is first necessary to clarify the job responsibilities related to car insurance claims. A car insurance claim case usually goes through the following steps from the car owner encountering a car accident to receiving compensation from the car insurance company.

### 3.1 Work content and requirements for Telephone Customer Service position

When a car owner experiences a traffic accident, they usually first report the case to the car insurance company by phone. The car insurance company needs to arrange staff to response the car owner's phone calls 24 hours a day, and after briefly recording the accident process and vehicle damage, send the case description and car owner's policy information to the nearest investigation staff for the accident site.

### 3.2 Job responsibilities and requirements for on-site survey personnel in traffic accidents

After receiving the accident information sent by the company, the survey staff will immediately rush to the accident site, take photos of the accident site, and inquire in detail about the accident process from the car owner. For vehicles with minor damages, the survey staff will also directly provide repair suggestions and calculate the compensation amount. Another important task for surveyors is to determine whether the accident scene is real. In practical work, the proportion of false cases is significant, accounting for over 20% of all cases.

### 3.3 Job responsibilities and requirements of accident vehicle loss appraisal personnel

For vehicles with severe damage, internal damage cannot be seen at the scene of the accident, and these vehicles need to be sent to a repair shop for disassembly and inspection. Professional accident vehicle loss appraisal personnel will come to the repair shop and discuss with the repair personnel the repair methods for the damaged parts of the vehicle, jointly developing the repair process, and ultimately calculate the cost of repairing the vehicle.

### 3.4 Work content and requirements of office case reviewers

The work of office case reviewers mainly involves reviewing accident scene investigators and accident vehicle loss appraisers the process involves inspecting the accident scene and the actual loss incurred by the accident vehicle, clarify whether the on-site photos taken are clear and genuine, and truly reflect the overall situation of the accident loss, determine whether the repair opinions given are reasonable, and whether the estimated repair costs are accurate.

### 3.5 Job responsibilities and requirements for vehicle insurance compensation calculation personnel

The job of vehicle insurance compensation calculation personnel is to calculate the confirmed accident losses according to the compensation standards stipulated in the insurance clauses, clarify which losses need to be paid compensation, and the calculation standard for compensation is based on the relevant regulations of the insurance policy. Finally calculate the total compensation amount, notify the parties concerned and be responsible for answering the parties' questions.

### 3.6 Work content and requirements of technical training personnel

Car insurance claims workers need to travel to accident and repair sites, overcome adverse

weather changes and traffic conditions, and constantly face a lot of tedious work and customer criticism, so personnel turnover is relatively high. The job of technical training personnel is to help industry newcomers quickly improve their professional skills without affecting the daily claims work.

## 4. Feasibility analysis of digital transformation of car insurance claims related positions

The digital transformation of an industry requires a significant investment and overcoming many technical challenges. In order to ensure that the huge investment can be rewarded, a specific analysis should be conducted on each link. In fact, digital transformation does not need to be completed in just one step, but can be steadily promoted step by step. Digital transformation is a long-term process, and many related supporting technologies still need to be improved and developed.

### 4.1 Digital transformation of telephone customer service positions

The telephone customer service for car insurance claims is mainly responsible for inquiring about the personal information of the car owner and the general situation of the traffic accident, and the this process an is relatively simple. The current digital AI technology is fully capable of performing such tasks. The latest version of ChatGPT can quickly answer most of the questioners' questions and provide processing suggestions according to their requirements.

Using digital AI technology for telephone customer service can avoid place and name recording errors caused by unfamiliarity with the local environment, and there is no need to train and assess new employees on vehicle models and insurance content. At the same time, digital AI can be online 24 hours a day, avoiding physical strain on staff caused by long-term night shifts. Most importantly, the maintenance cost of digital AI is very low, there are few work errors, and provides a lot of room for expansion. By using a digital AI system, one can undertake the telephone work of car insurance claims in many cities, with one investment and long-term benefits. It not only reduces labor costs, but also avoids losses caused by various work errors caused by new unskilled skills of new employees brought in due to the high turnover rate

### 4.2 Digital transformation of on-site investigation and loss assessment positions

The personnel in the positions of accident site investigation and accident vehicle loss assessment need to engage in outdoor work, which cannot be replaced by digital AI technology. The digital transformation of these job positions is mainly reflected in the use of network technology. At present, various car insurance companies promote remote inspection software systems.

The so-called remote inspection is actually the method of installing details of a client’s car on the car owner's mobile phone and the office computer of the car insurance company staff. The car insurance company staff remotely commands the car owner to use their mobile phone to take photos of the accident vehicle for certification purposes, and transmit the photos to the office computer of the car insurance company via the network system. A remote survey can effectively reduce the workload of the survey personnel and reduce the waiting time caused by the high traffic congestion and the inability of staff to arrive at the site on time. Practically speaking, the drawbacks of remote surveying are also very obvious. Remote inspection cannot intuitively and accurately evaluate the on-site situation, but at the same time it is easy to overlook many details, making it difficult to effectively identify many false cases. For components with slight deformation and damage, it is difficult to accurately determine the loss solely through videos and images. At the same time, remote surveys have a strong dependence on the network transmission speed, as a large number of videos and images need to be

transmitted. For local areas with unstable networks in cities or remote suburban areas, remote surveys may not be effective.

In fact, there is another way to choose from networked transformation. We can draw inspiration from the world-renowned taxi and takeaway software Grab, and consider establishing a network platform jointly by multiple car insurance companies to provide training and testing on the traffic accident site investigation and accident vehicle loss assessment, attracting more young people to learn and master this skill. Then the car insurance company can publish the tasks on the platform, and enlist personnel with qualified on-site inspection and loss assessment skills certificates to do this job in all parts of the city.

This not only reduces the labor costs of car insurance companies, shortens the waiting time of accident owners, but also creates more job opportunities and improves service quality. As for employees' work enthusiasm, specific assessment standards such as fake case identification and closure cycle can be set to motivate them.

## 5. Digital transformation of review positions

The review positions are divided into reviewing on-site photos and reviewing the repair costs of accident vehicles. The former mainly checks whether the image of the on-site photos is clear and the content is complete; The latter mainly checks whether the repair opinions on the damaged parts of the accident vehicle are correct and whether the estimation of repair costs is accurate. This field is actually a strong point of modern computer technology. As long as there is sufficient data support, modern digital AI technology can fully develop damage repair image effect identification and cost estimation systems for various models and vehicles.

### 5.1 Digital transformation of compensation calculation positions

The calculation of compensation is even simpler, and the computing and analysis capabilities of computers are much more powerful than those of ordinary people. At present, the calculation of automobile insurance claims is first analyzed by employees and then handed over to computers for calculation. After introducing digital AI technology, It is entirely possible to develop a compensation calculation system that matches different insurance compensation standards with actual accident losses by computer, and performs final calculations.

### 5.2 Digital transformation of technical training positions

The daily work of accident site investigation and accident loss assessment personnel is quite hectic. It is difficult to allocate a specific time for a centralized technical training session. If it could be designed as an online training, practice, and assessment platform like an English training website, dedicated trainers will convert some typical cases encountered in their work into online exercises, allowing every on-site investigation and loss assessment worker to systematically and comprehensively learn through this training website, and then complete the required final evaluation process to gain the qualification and be accredited. This will be much better and efficient than the current regular on-the-job learning process

### 5.3 Expected changes in car insurance claims companies after digital transformation

The digital transformation of the automobile insurance claims department is a long-term and arduous project. The investment is huge, and the initial operational effect will not be very stable. However, digital transformation is a trend in industry development. Once a mature technological system is formed, enterprises that have not participating in the digital

transformation process will be rapidly eliminated due to their obvious competitive disadvantage.

The use of digital AI and network technology can make the management of car insurance claims departments more effective and efficient, with fewer errors, lower risks, and lower costs. This is the future of industry development, being irreplaceable, and unstoppable!

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## References

Zhou Lei, Xu Jia, Zhang Xin, Zong Xiaomin, Fei Fei, Research on the Application of Our Tech Enabling Auto Insurance Claims: Path, Instances and Suggestions, Southwest Finance, 2023-09

Hou Shouli, Research on the Application of Artificial Intelligence Technology in Automobile Insurance Personal Injury Claims, Electronic Technology and Software Engineering, June 2022.

Lu Bingjie, Li Weizhuo, Na Chongning, Niu Zuoyao, Chen Kui, Research Progress of Machine Learning Models in Vehicle Insurance Fraud Detection, Computer Engineering and Applications, 2021-11.

Zhang Xiaobing, Hou Lisheng, Reflections on Artificial Intelligence Empowered Vehicle Insurance Personal Injury Claims, Shanghai Insurance, 2019-02.

Chen Wei, Talking about the Construction of Insurance Company's Technology Capacity under the Digital Trend, China Financial Computer, January 2022.

Wang Xinglin, Digital Research on Automobile Insurance Claims Business of PICC Property and Casualty Insurance H Branch, Master's Thesis from Hebei University of Economics and Trade, 2022.

Wang Zhongliang, Research on the Digital Management Plan for Automobile Insurance Claims of Company A, Master's Thesis from Harbin Institute of Technology, 2021.