

Digital Marketing Plan of Automobile Companies on TikTok Live Streaming

Applied Project Final Report

By

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Declaration

I, Yue Mao, declare that this project report submitted by me to School of Professional Studies, New York University in partial fulfillment of the requirement for the award of the degree of Master of Science in Management and Systems is a record of project work carried out by me under the guidance of Dr. Andres Fortino, NYU Clinical Assistant Professor of Management and Systems. I grant powers of discretion to the Division of Programs in Business, School of Professional Studies, and New York University to allow this report to be copied in part or in full without further reference to me. The permission covers only copies made for study purposes or for inclusion in Division of Programs in Business, School of Professional Studies, and New York University research publications, subject to normal conditions of acknowledgment. I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Acknowledgments

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Abstract

This study indicates current marketing problems of automobile companies and demands of digital transformation in automobile industry. For the purpose of expanding the customer range, automobile companies choose to cooperate with TikTok platform for digital marketing. The goal of this project is to come up with an efficient marketing plan, so that automobile companies could attract more effective customers. This marketing plan will also increase sales volume of automobile companies and divert more customers to local automobile dealers. Through the analysis of marketing problems of automobile companies and industry research of live streaming, the direction of marketing plan has been established. This project also includes interviews of typical automobile companies and surveys in automobile industry practitioners. After comparative analysis of alternative marketing plans, the clients finally chose car cloud store live streaming marketing plan. The dealers in different automobile companies opened their own live streaming accounts for car sales, and distributed users information in different regions to their local automobile dealers. In addition, this project also created a website for marketing plan promotion. The benefits of creating this website is to describe details in automobile live streaming marketing plan and attract more users to understand better about this plan. The website in this project was created by WIX and other analysis used tools including Tableau and Qualtrics. This project including approaches like SWOT, Porter's Five Force Model and Waterfall methods. As a result, the project provided for clients an effective marketing plan that automobile companies open their own live streaming accounts for car sales, and divert different customer information to local automobile dealers. This automobile live streaming marketing method attracted more customers to have appointments with automobile dealer stores. In conclusion, the marketing plan and contents of website in this project also got satisfied with clients.

The link of this project website is: <https://ym2157.wixsite.com/tiktokautomobile>

Abbreviations and Definitions

SWOT: SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, and SWOT analysis is a technique for assessing these four aspects of business.

WBS: WBS stands for work break down structure, which is a project management tool that uses a detailed step approach to complete large projects with several pieces.

Tableau: Tableau is a visual analytic platform transforming the way we use data to solve problems, empower people and organizations to make the most of their data.

Porter's Five Forces: Porter's Five Forces is a model that identifies and analyzes five competitive forces aspects that shape every industry and helps determine an industry's weaknesses and strengths.

HTML: HTML stands for Hypertext Markup Language, which is a markup language for the web that defines the structure of web pages.

WIX: WIX stands for Windows Installer XML, is a free software tool that builds Windows Installer packages from an XML document.

Introduction

Background information

Nowadays, a number of new platforms and business models have been hatched in the information age. Under the influence of the pandemic, traditional industries have digital transformation and chose to cooperate with some Internet platforms for online marketing. One of the typical Internet platforms is ByteDance, the parent company of TikTok. ByteDance is a technology company located in Beijing operating a range of content platforms that inform, entertain, and inspire people across cultures. ByteDance is the developer of the video-sharing social networking services and apps like TikTok and Douyin. It also develops the news and information platform Toutiao. TikTok and Douyin have large number of users around the world. According to data from parent company ByteDance, TikTok and Douyin currently has more than 1.29 billion monthly active users. With the rise of Tiktok, traditional automobile companies intend to expand their marketing size through short video and live streaming platforms. To help traditional automobile companies digital marketing transformation, this project will have research in automobile companies, to find problems and demands of automobile companies' marketing situations and provide a digital marketing plan for automobile companies on TikTok platform. TikTok advertisement department plans to create a more effective marketing plan combined TikTok live streaming with automobile companies. This marketing plan needs to make more efficient use of TikTok platform and have better customer effects on the automobile companies. This project will also create a website for promoting automobile marketing products on TikTok platform.

Company Name

ByteDance is the developer of video-sharing social networking services and apps like TikTok, Douyin and Toutiao. The ByteDance advertisement department is located in No. 19 Huayuan East Road, Haidian District, Beijing, China, which operating a range of content platforms for companies to expand their customers. This department provides customer increase plans for different kinds of automobile companies.

Sponsor Information

The project sponsor is Chongyang Fan, who is a marketing manager in TikTok advertisement department in ByteDance. The project sponsor is an excellent marketing expert with many years of experience in TikTok automobile advertisement department and leads a regional marketing team.

Problem Description and Opportunity

Nowadays, the traditional automobile companies meet certain problems. Some existing marketing methods have attracted a limited number of customers and cannot reach more users. Under the influence of the pandemic, competition in the automobile industry has been fierce in recent years. New opportunities in the automobile industry are constantly grabbing the attention of automobile companies and impacting the target user groups in the automobile industry. Many automobile companies require new sales stimulation, but the previous marketing strategies such as traditional advertisements, celebrity endorsements, and onsite automobile speech cannot meet marketing demands.

In this situation, traditional automobile companies intend to expand their marketing size through short video and live streaming platforms like TikTok. With the huge number of users on TikTok platform, it would be a great marketing opportunity to help traditional automobile companies digital marketing transformation and acquire more users. Thus, different kinds of automobile companies cooperate with TikTok advertisement platform to provide customer increase marketing plans.

However, the automobile companies have relatively instant marketing systems in the previous evolution. Those traditional automobile companies have encountered problems in the process of digital transformation, like low user conversions for the purpose of transactions, optimizing marketing costs and maximizing the reach of target users within a given budget. Through interviews in this project, the pandemic has affected automobile dealers in many ways. The pandemic has affected car dealers in many ways. For example, the pandemic has caused many customers to reduce their demands to go out and buy cars in offline automobile stores.

There are also some customers whose purchase intentions have been affected due to the economic status impact of the pandemic.

Moreover, advertisement investment efficiency and exposure to more potential purchase intention users are key problems during digital marketing process. Most automobile companies use local dealer channels to distribute their sales, and there is a contradiction between the different locations of live streaming users and the localities of offline automobile dealers. The users watching the live streaming on TikTok platform come from different regions of the country, but the car dealers who initiate the live streaming is only in a limited city. In order to solve these problems better, TikTok advertisement department need to provide a new marketing plan for those automobile companies. The important opportunities of this marketing plan are maximizing the exposure to more potential purchase intention users and distribution efficiency of users' information during live streaming on TikTok platform.

Importance of the project

Under the era of digital transformation, automobile companies are facing marketing changes represented by social networks. TikTok has become an important marketing platform for automobile companies and their competitors. With the popularity effect of TikTok, users on this platform are very important business opportunities resource. Thus, more and more automobile companies choose to join in TikTok and find their digital marketing plan. The importance of this project is helping automobile companies to find an efficient marketing plan to receive more exposure to users and increase automobile companies' marketing size. Moreover, in competitive market environments, this project could provide effective marketing solutions for automobile company clients to exceed their competitors.

According to "TikTok Automobile Creator Ecology White Paper", TikTok has accumulated more than 280 million interested users in automobile industry with year-on-year increase of 37%. Nearly 2.6 million people share automobile contents every day, more than 8,400 thousands of people like automobile contents and more than 11 million people comment on automotive contents. After data tests on TikTok live streaming, there are more than 10 million live streaming views and hundreds of millions video viewers every day. It is obvious that TikTok could provide large amount of users resource for automobile companies. Moreover, TikTok live streaming enterprise account has been popular in automobile companies. TikTok live streaming has become one of the most suitable channels for car viewing and inquiries. On the other hand, many automobile companies have limitation in their traditional store sale methods, especially have influence during pandemic. In face of such a huge user number on TikTok, many automobile companies hope to take advantage of TikTok's platform dividends to successfully

carry out digital marketing transformation. They are urgent to search for a method to expand their customer channels.

However, TikTok live streaming marketing methods are complex. It is necessary to catch preferences of users on TikTok platform and make better use of the user resources on TikTok platform. In the process of reaching out to more customers, an efficient marketing plan is really important. It is demanded to find marketing methods that is suitable for automobile company clients.

Therefore, this project is important and independent, not only for better use resources of viewers on TikTok live streaming platform, but also help automobile companies to attract more users and reach their marketing goals. Through the marketing plan in this project, automobile companies could gain more exposure on the TikTok platform and reach larger number of users. More importantly, automobile company clients could also use this marketing plan to address their low customer conversion rates. This project provides new marketing plans for automobile companies, and aims to help automobile companies increase their sales volume by cooperation with TikTok platform.

Industry Analysis

In recent years, with the rise of the Internet media industry, live streaming and short video applications have gradually become popular among users. With the rapid development of the Internet industry and the continuous increase in the scale of users, the live streaming industry has continued to develop, and has entered the field of vision of more people, gradually becoming a new cultural format. Due to the impact of the pandemic, users spend more time online and more people watch live streaming, they stay at home and shop online. The demands of users have made live streaming e-commerce marketing a new business model, which is growing rapidly. According to literature study, the pandemic has made live streaming e-commerce with both practical and entertainment characteristics an attractive option for consumers and the potential huge incremental space will be a long term development trend of live streaming e-commerce (Si, 2021). The rise of e-commerce and online shopping has provided new business opportunities for the live streaming industry. Driven by the economy of e-commerce shopping, the live streaming industry has experienced explosive growth. As shown in the figure below, the market size of China's live streaming industry has reached 223.9 billion RMB in 2021, with a year-on-year increase of 30.4%.

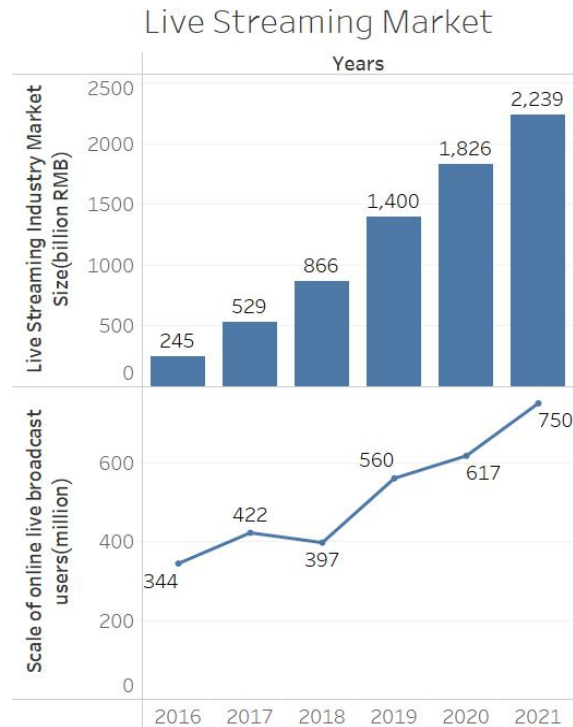


Figure 1. Live Streaming Market Growth

In addition, the number of users of live streaming also increased significantly during this period. According to data as figure one shows, the number of online live streaming users in China reached 617 million in 2020, accounting for 62.4% of the total number of Internet users. The live streaming satisfies the online shopping demands of users, and also promotes the further growth of the user scale of the corresponding live streaming business. During the changes of Internet consumption, more and more users choose to pay during live streaming. According to relevant data, the number of paying users in China live streaming industry has increased from 13.7 million in 2016 to 36.1 million in 2019. It is expected that the number of paying users will reach 53.2 million in 2022 with a payment rate of 11%. Through market research and data support of the live streaming industry market, the current live streaming industry has huge business opportunities and also has very large number of users. Many companies and businesses

are adapting to the market of the live streaming industry and trying to find methods to participate in the dividends of the live streaming industry.

Moreover, not only automobile dealers and manufacturers, but also many companies have realized the importance of normalized live streaming. The pie chart in figure four is companies' live streaming usage frequency in 2022. It could be found that nearly 70% of corporate customers said that the frequency of their company's live streaming has further increased, and 49.0% of corporate customers said that their live streaming frequency has increased significantly.

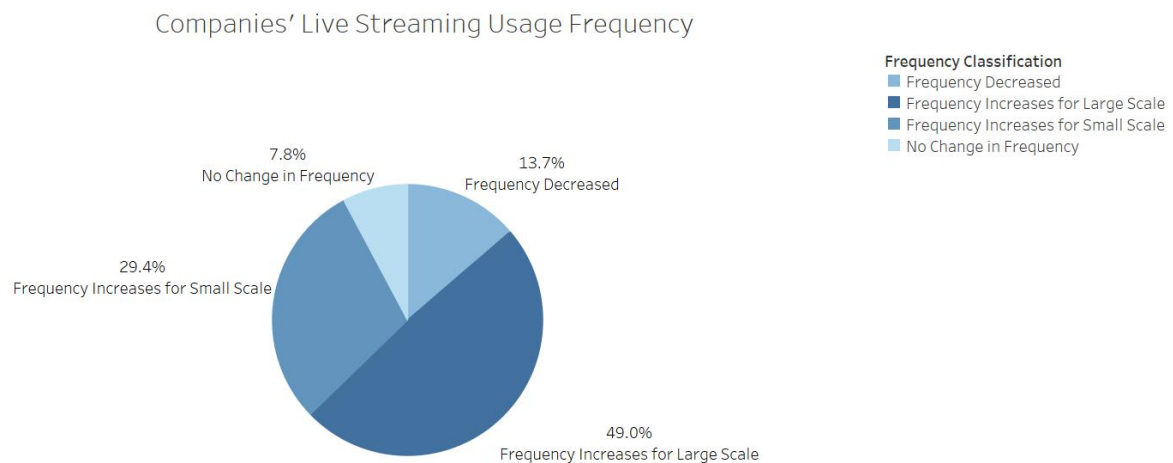


Figure 2. Companies' Live Streaming Usage Frequency

Through pie chart in figure four, it is obvious that the frequencies of 78.4% companies has increased in 2022. Live streaming is becoming an effective way of corporate marketing.

In this emerging live streaming industry market, traditional automobile companies are also exploring methods that suitable for them to sell cars on live streaming platform. With live streaming marketing has become normalized, many automobile companies have entered the live streaming industry to actively seize the business opportunities and communicate with users.

According to the survey data, short video platforms and automobile professional platforms are main methods for methods to understand and watch automobile live streaming. As figure two shows, customers watch automobile live streaming on short video platforms account for more than 80%.

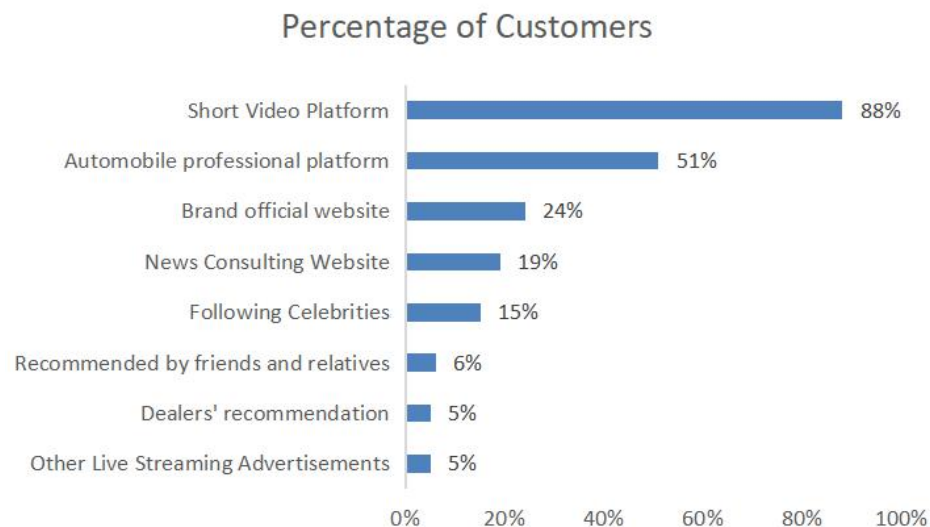


Figure 3. Channels for Users to Know Automobile Live Streaming Information

Through data in the above figure, the short video platform has become the most important channel for users to understand automobile live streaming information. Especially the short video platform TikTok, which is the world's most downloaded short video platform and has 600 million monthly active users, has been the main platform for automobile live streaming. Therefore, the cooperation between automobile companies and TikTok platform live streaming has become a major trend, and users on TikTok also have high enthusiasm for automobile live streaming. The number of live streaming users of automobile dealers and automobile manufacturers has continued to increase. Automobile dealers have begun to think highly of live streaming and strive to improve the quality of live streaming contents, which makes automobile dealers far ahead in both the number of live broadcasts and the total number of user views.

At the same time, users also have high evaluation of the automobile live streaming. According to the customer data in surveys, most users believe that automobile live streaming has convenience in various aspects. As figure three shows, 71% customers think the advantages of automobile live streaming is getting more comprehensive information and 40% of customers think automobile live streaming help customers get information anywhere. From this survey data, it is found that many users are very satisfied with the effect of automobile live streaming.

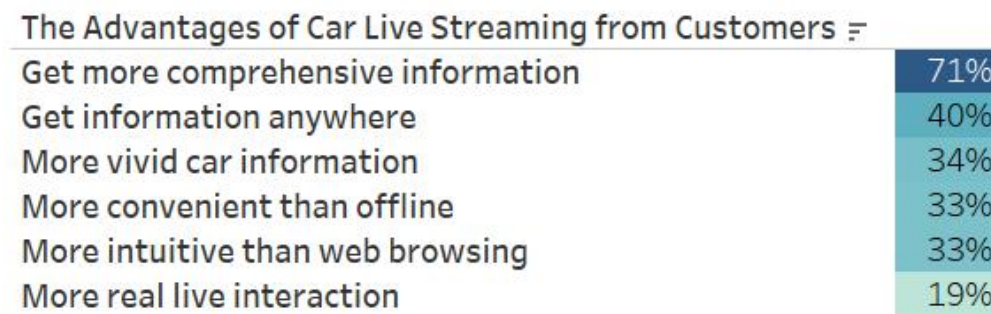


Figure 4. The Advantages of Car Live Streaming from Customers

Therefore, both the general environment of the live streaming industry and the vertical category of automobile live streaming, the influence and importance of automobile live streaming marketing are clearly determined. This project will carry out research on automobile live streaming and provide effective live streaming marketing plans for automobile companies.

Automobile Companies Interviews

In order to conduct a more in-depth analysis of marketing problems and demands of automobile companies with TikTok's live streaming cooperation, this project conducted interviews and surveys on some typical automobile companies and car dealers that cooperated with TikTok platform. This part includes interviews with some typical automobile companies like BMW, Mercedes-Benz and local automobile dealers to find their marketing problems and cooperation cases on TikTok platform.

BMW

BMW has a very leading position in the car market. In 2021, BMW models are popular in major segments. For example, in terms of new energy vehicles, the BMW Group sold more than 48,000 new vehicles, a year-on-year increase of 69.6%. According to interviews, BMW has faced more marketing challenges to maintain the brand's sales performance. BMW recently launched 26 new models and also launched new energy vehicles. The BMW Group is expected to deliver about 10 million pure electric vehicles globally. At this scenario, the BMW Group is accelerating the development of electric vehicles and improving customer experience, and is actively promoting new models.

In order to reach more users and achieve higher sales performance, BMW Group chose to cooperate with the TikTok platform. In this marketing, BMW adopted the creative short video marketing method, using BMW's homonyms in Chinese dialects to create contents. This short video cleverly used different life scenes to implant BMW car advertisements, combining with the time of the traditional Chinese Spring Festival. Through the short video marketing promotion of

BMW Group, many users actively participated in their Spring Festival memory effect tasks on TikTok platform. According to data, BMW Group's short video marketing on TikTok has greatly boosted customer influence, achieved 93% increase in exposure, exposed total of 120 million national people tasks, achieved 63,000 App downloads and 75,000 BMW official account fans increased. This BMW short video marketing plan is a typical successful case of the cooperation between automobile companies and TikTok platform.

Mercedes-Benz

Mercedes-Benz is also a typical representative of a car company. According to interviews, Mercedes-Benz has been launching new energy models, but their new energy car sales have encountered difficulties in transition. Their new energy car marketing process is facing strong competitors on the same track, such as NIO, BMW and other automobile companies. Mercedes-Benz is also a typical representative of a car company. Mercedes-Benz is facing strong competitors on the new energy track, such as NIO, BMW and other car companies. Some car reviewers said that the real difficulty of Mercedes-Benz is marketing, and it needs to adapt to the new trends of the Internet applications.

In face of this situation, Mercedes-Benz chose to cooperate with the TikTok platform and invited a celebrity director to make a marketing short videos for Mercedes-Benz. These short videos interpret the brand proposition of Mercedes-Benz, and invited TikTok users to participate in the creating of the Chinese New Year short videos. This audience can immensely participate in the creation of brand contents. This integrated marketing method makes the Mercedes-Benz brand activities closer to each user, truly imprints the content in the user's heart, and enhances the user's resonance. This event has created a very high brand effect for Mercedes-Benz,

reaching a total of 510 million total topic views, 117,000 total videos and 13.13 million video likes, truly realizing user fission marketing.

Local Automobile Dealers

In addition to the official cooperation between automobile companies and TikTok platform, many automobile dealers also participate in the marketing plan of cooperation with TikTok. According to the interview with Jiangsu Tian Cheng Automobile Dealer, a front-line sales told project manager that their offline sales channels had encountered many difficulties due to the impact of the pandemic. Many customers were unable to visit their offline stores to view their cars due to the epidemic control, which affected their sales to a certain extents.

Faced with this scenario, many automobile dealers have started short videos and live streaming marketing methods on the TikTok platform. The TikTok platform has brought them great online exposure, saving them a lot of time and cost in the process of viewing and buying cars with customers. According to interviews, many dealers have chosen to open their TikTok enterprise accounts and conduct live streaming marketing on a regular basis. According to statistic data, the current monthly average number of automobile live streaming users has increased by 88% compared with the same period last year, and the customer appointment information generated by live streaming have increased by nearly 34 times. Live streaming has become a high-frequency way of interaction between automobile companies, dealer stores and customers.

Through the above three cases and surveys, it is obvious that marketing plans between automobile companies and the TikTok platform has become a major trend, which contains many new marketing opportunities.

Survey Data Analysis

This project includes a survey to interview different kinds of practitioners in the automobile industry, like automobile dealers, automobile company employees, car sales and automobile store owners. The purpose of this survey is to investigate the existing marketing problems of different automobile industry practitioners and interview their current situation on TikTok automobile live streaming. This survey interviewed 100 respondents from different positions in automobile industry, which is designed with comprehensive survey questions.

This survey is powered by Qualtrics tools. This tool is a platform for creating and distributing surveys. The questions in this survey including roles of practitioners, current effect of pandemic in car sales, situations of their live streaming on TikTok and car sales volume changes through automobile live streaming. The detailed survey questions, collected datasets and worksheets are uploaded in GitHub link at conclusion part.

This survey classified different groups of people working in the automobile industry and recorded the changes of different groups of people after using TikTok automobile live streaming. Firstly, this survey interviewed 100 respondents in automobile industry, including 20 automobile dealers, 17 automobile company employees, 45 car sales and 16 automobile store owners. They answered the problems of pandemic effects towards their automobile business and current situation on TikTok live streaming. As for the pandemic effects, 77.0% respondents think that pandemic has a great impact on their car sales volume and 17.0% respondents choose that pandemic has a general impact. It is obvious that pandemic does have a strong economic impact on different kinds of practitioners in automobile companies.

Has the pandemic affect your car sales?

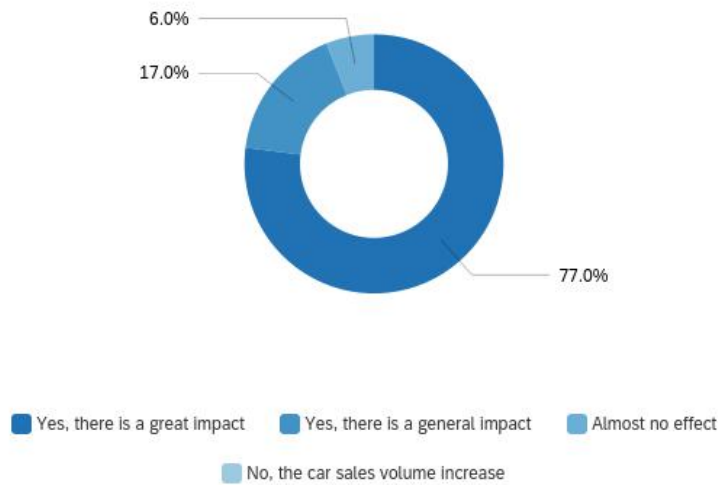


Figure 5. Pandemic Impact on Survey Respondents.

Besides, this survey answers indicate that more and more respondents use TikTok automobile live streaming platform for their car sales. According to the survey data, 66.0% respondents say that they often use TikTok live streaming for car sales. This survey helped the project with a data sample that TikTok marketing is becoming more popular among practitioners in the automobile industry.

Do you use TikTok Automobile Live Streaming Platform

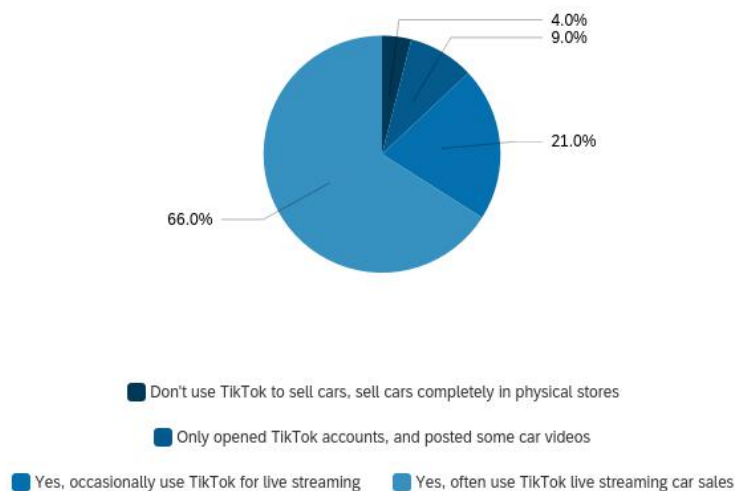


Figure 6. TikTok Automobile Live Streaming Platform Usage Situation.

Moreover, one of questions in this survey also investigate attitudes of respondents towards TikTok automobile live streaming. In this survey, there are approximately 80% respondents very accept TikTok live streaming. They think TikTok automobile live streaming is very effective for their car sales. And there are 18% respondents generally accept it with attitude of trying, which indicates that TikTok live streaming market still has a lot of room for growth.

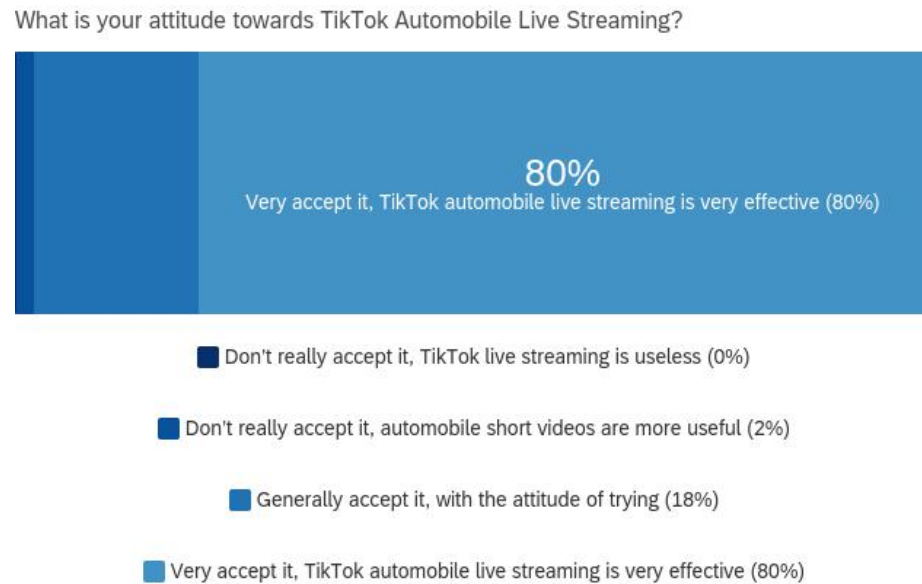


Figure 7. Respondents' Attitudes Towards TikTok Automobile Live Streaming

This survey also contains data collection about customer changes automobile companies through TikTok live streaming. This survey quantified the specific customer growth of these respondents when they use TikTok live streaming. As it shows in figure eight, 64% respondents identified that their business had large increase for over 50 people by using TikTok automobile live streaming and 29% respondents have a litter increase in their customers. Thus, 93% of respondents confirmed that TikTok automobile live streaming platform helped them achieve customer growth.

How has your customer volume changed through TikTok automobile live streaming?

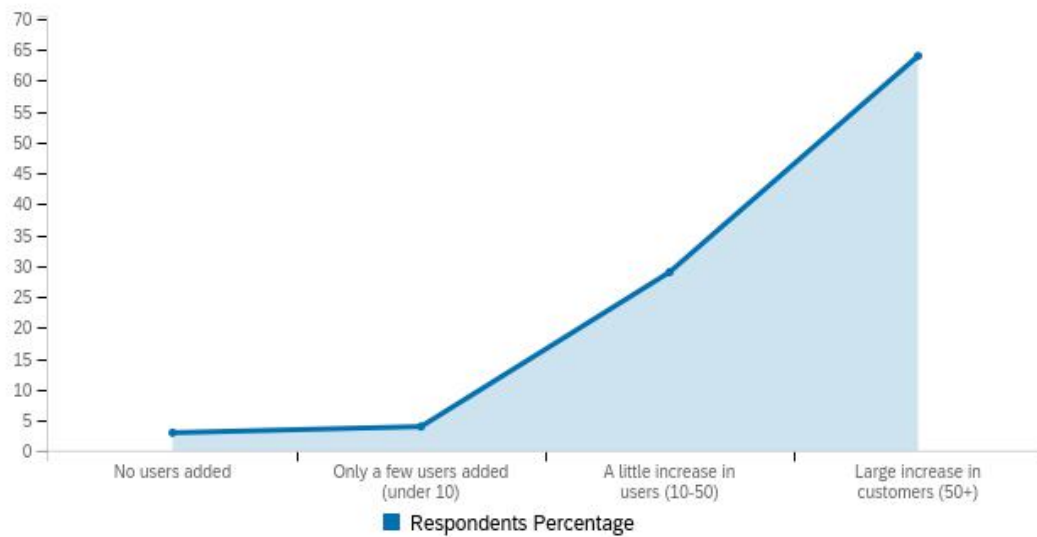


Figure 8. Customer Changes Through TikTok Automobile Live Streaming.

In addition to customer growth, this survey also wants to figure out the sales volume increase that the TikTok automobile live streaming platform brought to those respondents. As figure nine shows, the car sales volume of 74% respondents has significantly increase through using TikTok automobile live streaming platform. There are 20% respondents thinks their car sales volume has general increase during live streaming process. Most of respondents really have achieved sales growth through the use of TikTok automobile live streaming marketing plan.

How has your car sales changed through TikTok automobile live streaming?

Car sales Volume Change

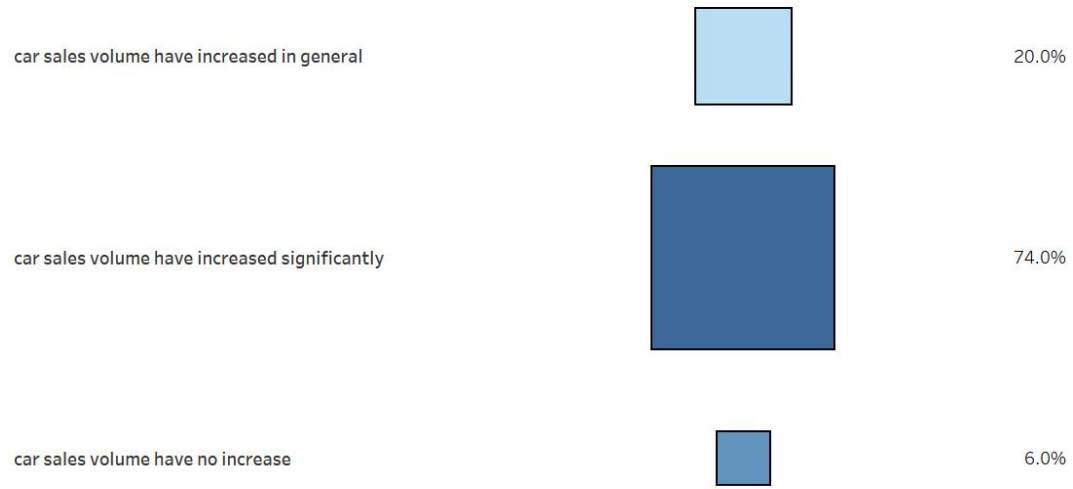


Figure 9. Car Sales Changes Through TikTok Automobile Live Streaming.

Therefore, with data analysis of this survey, TikTok automobile live streaming has now become a new marketing model among the automobile industry. Automobile live streaming marketing mode has gradually been accepted and promoted. Under the influence of pandemic, practitioners in the automobile industry have encountered marketing problems and they need to find an efficient marketing plan to make better use of the TikTok platform. Most of those practitioners in automobile industry are really recognize the marketing functions of TikTok live streaming and hope to use this platform for a long time.

Project Objectives and Metrics

Goal of the project

Traditional automobile companies are undergoing digital marketing transformation. This project will find problems and demands of automobile companies' marketing situations and provide a digital marketing plan for automobile customers on TikTok platform. TikTok advertisement department plans to create a more effective marketing plan combined with TikTok live streaming for automobile brand customers. This marketing plan needs to make more efficient use of TikTok live streaming platform and have better customer effects on the automobile companies. This project will also include a website design for promoting automobile marketing products on TikTok live streaming platform.

Project Deliverable and Metrics

Object 1 – Write a live streaming industry trend analysis and calculate data from financial statements & Questmobile. Use Tableau to analyze data.

Measurement: Finish the live streaming industry data analysis by the Mar 8th, 2022.

Object 2 – Contact with my sponsor and interview some automobile companies to find traditional automobile companies' marketing problems.

Measurement: Finish the typical automobile companies' cases and survey report by Mar 25th, 2022.

Object 3 – Provide a digital marketing plan for automobile companies in TikTok live streaming to attract more customers.

Measurement: Deliver the digital marketing promotion plan by Apr 5th, 2022.

Object 4 - Create a website to promote automobile customers' marketing products in TikTok live streaming and provide the registration system for users.

Measurement: Deliver complete website and report accepted by client by May 3rd, 2022.

Project Evaluation

Project success was evaluated by certain evaluation criteria, including whole project outcomes, project report and presentation, project website accomplishment, project schedule, project communication plan, issues log, risk register and project status reports. These are valuable criteria for project evaluation assessment.

1. Project schedule

This project will meet the milestone deadline and the final due date. The client and project sponsor will sign the project completion document, project acceptance document before the due date to make sure this project will be delivered on time. Successful completion of all reports by the final project deadline is one evaluation criteria of project success.

2. Project outcomes

The outcomes of the project is an important measures of project success. The contents of this project should conform to the submitted objects and metrics, and meet the requirements of the project team and clients. The results of this project should have certain conclusions and outcomes, which is an important project criteria.

3. Project website accomplishment

This project also contains a web page promoting the marketing plan. The website is also an important deliverable of project. The project also contains a web page promoting the

marketing plan. It is an important condition for the success of this project that the web page will publish on time, and the contents of marketing plan are completely displayed on this website.

The quality of the web page should be approved by the project clients.

4. Project report and presentation

The project report and presentation will be an important evaluation criteria of project success. Completing the project report with quality is one of the necessary criteria for the success of the project, including completing each part of the project report, meeting the length of the project requirements, matching the format of the project. Meanwhile, a comprehensive presentation of the whole project contents to professor and project sponsor is also one of the important criteria for the project success.

5. Project regular communication

The regular communication and status report of this project is also important for project success. Project manager should have weekly meetings with clients about the project progress and project plan in the next steps. The project manager will also need to submit project status reports, risk analysis report and change management plan, which will tell clients what the project situation is. The project required to finish those reports and get assigned by client that agrees the contents of project.

Alternate Solutions Evaluated

Regarding effective digital marketing plans for automobile companies on TikTok platform, automobile companies have two important advertisement marketing solutions on the TikTok platform.

The first marketing solution is automobile companies cooperate with short video celebrity bloggers to make automobile short videos. Those short videos attach a link that could make an appointment for drive tests in order to attract more users for automobile companies. This solution could receive benefits from the fans effect of celebrity bloggers. Under this solution circumstances, the celebrity bloggers always have millions of followers, and the short videos they make will give valuable promotion effects to automobile companies. This kind of short videos will bring potential user growth to automobile companies, which is a very effective advertisement solution. Since the pandemic, people couldn't go directly to the automobile stores for automobile purchasing. Short videos are readable, attractive and interactive, which are efficient ways for customers to learn about desired car types and description. Indeed, many automobile companies have brought advertisement through TikTok short videos and cooperate with celebrity bloggers. Moreover, This marketing solution will insert a link below short videos that is convenient for users to leave their contact information and make an appointment to see the car offline. This solution is more direct and convenient for users to operate, and attract effective users to a greater extent.

However, this marketing solution also has some drawbacks. Usually, it is expensive to invite celebrities to create short videos for promotion, which greatly increases the marketing budget of automobile companies. In addition, some automobile companies indicated that

celebrity bloggers do not have a comprehensive understanding of the car functions. They cannot fully explain the functions of new car models in automobile companies. Those Internet celebrities sometimes could not accurately locate the preferences and demands of target customers, which affects the accuracy of short video contents.

The second marketing solution is automobile companies and car dealers open their own TikTok accounts to sell cars through live streaming. With the live streaming portal of TikTok, the automobile dealer sales could act as anchors to sell cars live on their own, and start the online car promotion plans.

The online live streaming marketing model provides customers with a comprehensive introduction to new car information and store activities, and fully interacts with customers. Those car sales are groups who really know the information of car functions. If they open live streaming and have contact with customers, it would be more effective to attract more target customers. This marketing solution enable automobile companies conduct efficient user maintenance through TikTok live streaming platform and accurately attract more users to automobile dealership stores. In this way, the car information of automobile companies could be exposed in large scales, which allows customers to obtain valuable car information in real time. Moreover, In the car live streaming room, automobile stores could directly put the registration link to intended customers, which is convenient for car dealers to obtain more customer information.

Some sales in car dealer stores have no experience in live streaming on TikTok. They are unfamiliar with methods of live streaming and operation strategy of how to attract users. This efficient marketing plan could help those sales to improve conversion rates of their customers and collect their customer information more effectively.

Solution Evaluation Criteria

There are some criteria established for selecting a marketing plan, including the business functions that these alternate marketing plan solutions can bring to automobile companies and the number of users that could be reached. In addition, the cost criteria is also an important factor to evaluate alternate solutions.

Business Function Evaluation Criteria

The business function evaluation criteria of marketing plan solutions is primary factor in the choice of automobile companies to cooperate with the TikTok platform. The commercial value of alternate marketing plan is the primary factor in the choice of automobile companies to cooperate with the TikTok platform. In the process of choosing cooperation, automobile companies mainly evaluate the business functions of marketing plans, including brand exposure, actual number of registered customers and products sales volume increase.

Cost Evaluation Criteria

In addition, the cost criteria is also an important evaluation factor for automobile companies to consider in the process of choosing suitable marketing plan. The cost of cooperation is also an important criterion of automobile companies to consider. In the process of cooperation, automobile companies tend to choose the most cost-effective advertisement cooperation marketing plan. The most suitable marketing plan need to maximize the use of costs, ensure business functions, and accurately reach more customers.

Selection Rationale

The short video celebrities promotion marketing solution and automobile companies dealer live streaming promotion plan have their own advantages and disadvantages. This part explains how to select an appropriate marketing solution based on solution evaluation criteria. The business function goal of alternate marketing plans and one of the most important factors that automobile companies concerned is actual number of registered users. Only customers who have made appointments for a test drive or made a successful transaction in offline stores through marketing plans on TikTok platform could be counted as an effective user conversion. At the same time, the cost of marketing cooperation programs is also an important criteria. This part will analyze those two alternate solutions with different criteria and how those alternate solutions address actual problems of the automobile companies. After that, this part will select the most suitable marketing solution for this project by analyzing the business function and cost of each marketing plan.

Short Video Marketing Plan

Business Function Evaluation

First of all, in terms of business function criteria, short videos marketing plan could provide automobile companies with different advertisement promotion methods, including information flow advertisements, search advertisements, open-screen advertisements and other advertisements. By promoting diversified contents, content ecology of TikTok helps automobile companies got large exposure to customers. The exposure effect of this marketing solution meets the business function standard criteria. Secondly, TikTok short videos could attach automobile

product link under video details. Once viewer open the automobile short videos, they could reach out to automobile companies for further information. With a huge number of people interested in automobile contents on TikTok, short video promotion solution could use content marketing methods to reach out more customers. In this marketing method, automobile companies cooperate with TikTok celebrities to convert their fans into automobile companies customers. At the same time, short video marketing solution provides short videos contents that are suitable with the communication methods of customers. In this way, this marketing plan could precisely reach the loyal fans of hundreds of millions of automobile contents and help automobile companies contact target customers.

However, some problems occurs in this marketing solution. When celebrities explain car products or brands in short videos, the contents of these short videos have difficulties to describe specifically the performance, appearance, and advantages of different cars. It has problems for short video advertisements to meet the expectations of automobile companies for the effect of product or brand communication if the video time is limited. At the same time, customers and automobile companies could not have timely contact with each other during short videos.

Cost Evaluation

The cost evaluation of short videos is also an important criteria for automobile companies to consider. If automobile companies choose to cooperate with TikTok celebrities, the corresponding short video charging fees is based on the number of followers of celebrities and the length of videos. According to normal circumstance data, if the number of fans of Internet celebrities is more than 10 million, then the quotation for promoting a short video is between 500,000 and 1,000,000 RMB. The above cooperation fees are also determined according to the length of the videos.

Therefore, automobile companies cooperate short videos with Internet celebrities is still require high cost, and additional short video cooperation payment is required.

In addition to cooperating with Internet celebrities, there are other basic advertisement cost criteria in the short videos marketing plan. Those criteria may account for additional fees during process of short video promotion. This part of the billing method is accountable and transparent, which mainly has following four charging standards.

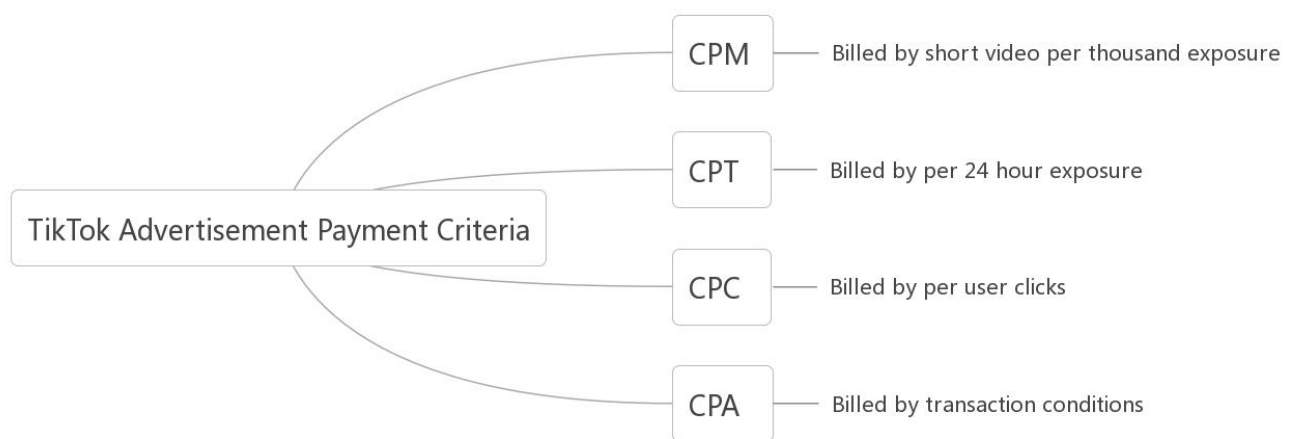


Figure 10. TikTok Advertisement Payment Criteria.

1. CPM

The first CPM payment standard is billed by per thousand exposure. This payment standard is based on thousand user exposure, and one thousand times is a billing unit. More specifically, when the advertisement link of automobile companies in short videos is displayed 1,000 times on TikTok platform, the system will charge one unit fee.

2. CPT

CPT payment standard is billed by time for per 24 hours. Billing unit fee is charged according to 24 hours of exposure, which means advertisements could be placed at any time within 24 hours.

As long as users open TikTok, they can see the advertisements. No matter how many times they are exposed, they are only charged once within 24 hours.

3. CPC

The CPC payment standard is billed by each time an advertisement is clicked by user. If an advertisement placed in short video is clicked by a user, the system needs to charge a fee. When customer clicks on the advertising link promoted by the advertiser, the TikTok short video advertisement system software will automatically deduct the CPC advertisement fee.

4. CPA

The CPA payment standard is based on user transaction fees. This standard has three charging methods. The first is charging by telephone. The number of people who call the advertiser will be charged according to the number of times. The second is charging according to the personal information form submitted by the user. The third is for APP promotion, it depends on fees that are charged for a single APP to be downloaded once, which is currently limited to Android phones. This payment standard method has wide coverage and high advertisement investment efficiency.

In conclusion, TikTok's short video marketing plan that have cooperation with Internet celebrities could bring more customer exposure and business functions to automobile companies. But at the same time, the cost of this marketing plan requires additional fees for cooperation with celebrities and promotion. With the various billing criteria for TikTok short video advertisements, the cost of short videos marketing plan has been increased more for automobile company clients. Moreover, the main problem of automobile companies that customer conversion rate is uncertain in this marketing plan. Short videos marketing is limited in time, and there are no real information interaction between car sales and customers. Many customers just click on the

advertisement link in short videos, but do not really make an appointment for a test drive. More importantly, the location of many customers comes from all over the country and could not be matched with the local car dealership stores in short videos. Therefore, automobile companies are looking for a more efficient marketing plan.

Automobile Live Streaming Marketing Plan

The automobile live streaming marketing plan is a new creative marketing plan named car cloud store for automobile company clients to contact with customers and provide effective solution for their problems. In order to solve the difficulties of offline car views and the uncertainty of the conversion rate of short video users, TikTok has fully opened the live streaming function to automobile companies across the country. Many automobile companies and dealer stores open their own TikTok live streaming accounts to operate their private domain customers. After their accounts are opened, dealers can fully utilize the user resources on TikTok platform and have close connection with target customers on TikTok live streaming. More importantly, this live streaming marketing plan could provide a division system for customers in different locations to match their local stores. Customers in different locations could correctly connect to their local automobile stores by this division system. This live streaming marketing plan could also provides customers with a package of services such as online car viewing and sales consultation, so as to solve the demands of customers who are unable to view cars offline. Through the analysis of business functions and cost of this marketing plan, the advantages of car cloud store live streaming marketing plan are obvious and become the final marketing solution in this project selected by clients.

Business Function Evaluation

The business functions of this marketing plan could solve the main problem of automobile companies and dealer stores. The business effects of TikTok's live streaming marketing plan is really efficient. As long as customers comes to watch the explanation in the live streaming, it may bring sales. The marketing method of live streaming car sales allows the dealers of automobile companies to reach more intended users accurately. In the live streaming room, professional front-line car sales staff can better interact with users and receive really effective customer appointments.

This live streaming marketing plan also provides a creative system for dividing customer information from different locations. During automobile companies' live streaming, some potential car buyers from all over the country may see the contents of one automobile dealer. There is a contradiction between the locality of offline automobile dealers and online appointment opening resources. According to the data on TikTok platform, 80% customer information received by dealers in the live streaming are from different locations. This kind of different location customers always can not be promoted to correct location efficiently. In this scenario, a large number of clues from customers in different places are wasted. To deal with this problem, TikTok live streaming automobile department provides an creative marketing plan solution. This marketing plan provide car cloud store service for automobile companies, which has circulation of customer information from different places. After opening the car cloud store service, automobile dealers can forward the clues from different locations to the correct manufacturer within one second, and the system automatically helps the manufacturer to send customer clue information to their correct local stores. By distributing different customer location to the appropriate dealers, 80% of the different location customer clues changed from

invalid to effective. It is obvious that the car cloud store live streaming solution is more efficient to collect customer information. The figure eleven shows process of car cloud store live streaming marketing plan. Automobile dealers open their live streaming and different kinds of users leave their information. The car cloud store system will help automobile dealers divided customers information into local or different locations and upload to manufacturer for further distribution. After dividing customer information to correct automobile dealers, every dealer will follow up those customers to make appointments for conversions. During this process, automobile manufacture will also distribute reward to automobile dealers who host this live streaming. This system could encourage automobile dealers to have more motivations for live streaming and attract more customers effectively.

Thus, the TikTok car cloud store live streaming marketing plan has greatly improved the marketing efficiency of automobile companies. This live streaming marketing plan really help automobile companies reach more effective users and bring real market increase to automobile companies.

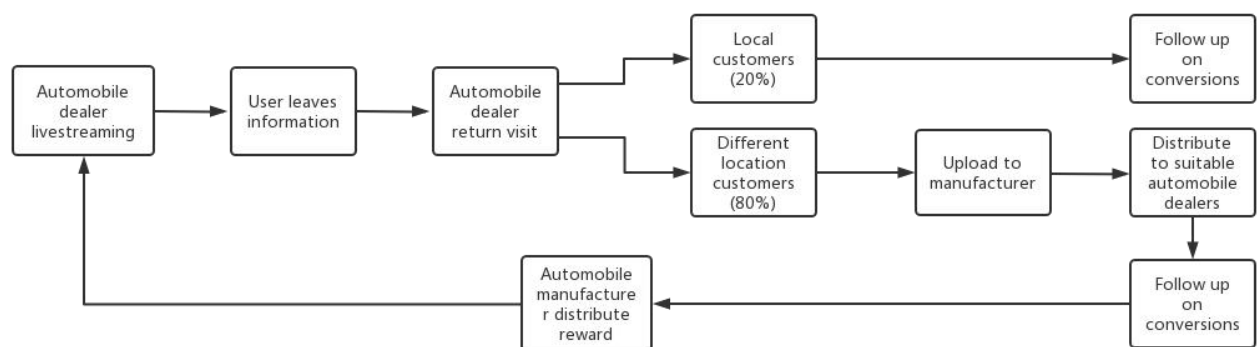


Figure 11. Automobile Live Streaming Marketing Process on TikTok.

Cost Evaluation

The cost evaluation is also an important criteria for automobile companies to consider. This live streaming method is more cost-effective, requires less cost and saves the high cost of short video cooperation with Internet celebrities. During the live streaming marketing plan, automobile companies also need to pay promotion fees for TikTok platform. But the payment methods are more flexible for charging.

The cost of live streaming marketing plan could be billed in this situation. When some automobile dealers first opened their own accounts for live streaming, they did not have very large number of viewers as Internet celebrities. The number of viewers in their live streaming room is not sufficient. In this scenario, the automobile dealers live streaming needs to invest certain budgets for viewers promotion. They may need to buy product named Dou+, which is a viewer exposure tool on TikTok platform. It can effectively increase the amount of live streaming viewers and improve the exposure of contents. This investment of Dou+ could also help automobile dealers to let more users see their live streaming status and watch their live streaming room. The cost of promotion in this marketing plan is more flexible, and it can be charged according to the specific number of exposures. For example, the minimum cost for promotion investment in this marketing plan is only 50 RMB to have exposure for 2,500 people. Thus, the cost of car cloud store live streaming marketing plan is more cost-effective. The cost of this automobile live streaming marketing plan could be customized, which is more efficient for automobile companies and dealer stores.

Alternate Solutions	Business Function Evaluation	Cost Evaluation
Short Video with Celebrity Marketing Plan	Got exposure from influence of celebrity	Additional short video cooperation payment
Car Cloud Store Live Streaming Marketing Plan	Have efficient contact with customers and different location information system	Flexible payment and the accountable promotion fee on TikTok

Table 1. Marketing Solutions Selection Rationale.

The table one shows a conclusion of two alternate marketing solutions in different criteria. This table clearly lists alternate solutions, which compares their business function evaluation and cost evaluation. In terms of business functions and cost evaluation, the car cloud store live streaming marketing plan has more advantages. This marketing plan effectively solves the existing problems of the automobile company clients, provides business functions and also has advantages of cost. Therefore, the client of this project decided to choose the car cloud store live streaming marketing plan as their marketing solution.

Approach and Methodology

The approaches and methodologies in this project including Work Breakdown Structure, SWOT Analysis and Porter Five Forces Model. In addition, approaches and methodologies in creating website during this project including Waterfall Agile software development cycle. This part introduces the main approaches, methodologies and detailed usage in this project.

Work Breakdown Structure

The first methodology is Work Breakdown Structure. This methodology is one of the most efficient project management method. WBS Project Management shows the overall project work and deliverable of my whole project. WBS Project Management is that it provides all my project team members, including project manager, project sponsor and clients a comprehensive understanding of where their responsibilities fit into the overall project management plan. The WBS also gives them an indication of the impact of their work on the project as a whole. By checking specific tasks and timeline in WBS sheet, the project sponsor and clients could mark the process of whole project and communicate with project manager.

SWOT Analysis

The second methodology is SWOT analysis. SWOT analysis stands for strength, weakness, opportunities and threats. By using SWOT analysis methodology, it helps clients to discover the internal strengths of TikTok live streaming marketing plan and analyzed opportunities for automobile companies. Our project team determining automobile companies' problems and opportunities from SWOT analysis methodology and have more clear understandings about the situation of automobile companies, which helps provide their choice of digital marketing plan.

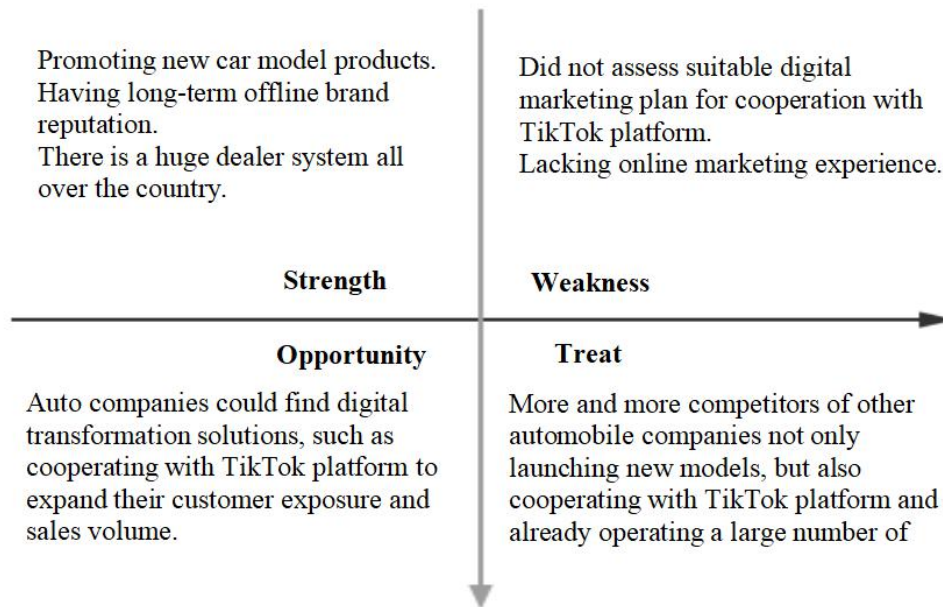


Figure 12. SWOT Analysis of TikTok Live Streaming Marketing Plan.

With the SWOT analysis methodology of automobile companies, this project analyzes the existing problems of traditional automobile companies more clearly, and finds possible opportunities for automobile companies.

Porter Five Forces Model

This project uses Porter Five Forces Model to analyze potential competition. This Porter Five Forces Model helped project manager analyze the framework of potential competition, factors affecting probabilities and developing strategies in the live streaming industry. This theory is based on the concepts that there are five forces determine the competitive intensity and attractiveness of a market. Porter's five forces help to identify where opportunities lies in a business situation. This methodology is useful for project manager to understand both the situation of live streaming industry and potentially profitable marketing plans.

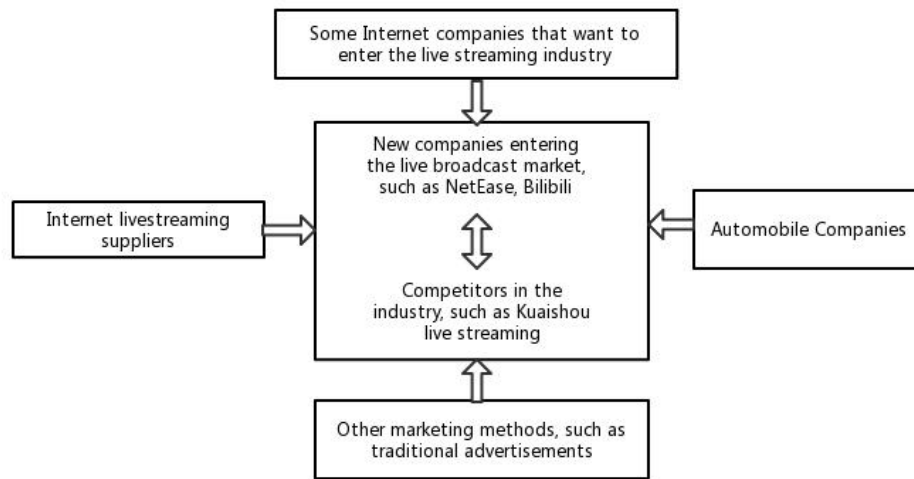


Figure 13. Porter's Five Forces Model of Live Streaming Industry.

Through Porter's Five Forces Model, the threats of competition are more clearly analyzed in the industry research. Also, the importance of launching a competitive marketing plan in this project is more clearly profoundly reflected by this model.

Waterfall and Agile Methodology

The Waterfall methodology is a sequential development process that flows through all phases of this project. By using Waterfall development methodology, the whole process of creating website will be self-contained and work independently, which could provide more predictable release schedules. This Waterfall development methodology greatly improved the teamwork and communication efficiency of this project. During the process of creating website, the Agile methodology is also an iterative methodology to help website development more efficiently. The Agile methodology helps our team provide more excellent deliverable to project clients. Agile project management helped our team focus on breaking down large projects into more manageable tasks, which is more flexible to adapt to project change management plan.

Results

This project found that the automobile industry is experiencing the marketing shock during the pandemic, and there is a great demands for these automobile companies to broaden their marketing channels through digital transformation. In cooperation with the project sponsors of the TikTok platform, this project studies two alternate marketing solutions. The first method is automobile companies cooperate with Internet celebrities on TikTok platform, and the second method is automobile companies opening their own live streaming accounts for car sales. By analyzing the business functions and costs of those two alternate marketing methods, it is found that the second car cloud store live streaming marketing plan are more suitable and efficient for automobile companies. This live streaming marketing plan not only has adjustable costs, but also provides different location customer information system for clients. Another alternate marketing solution between automobile companies and Internet celebrities requires a high cost of short video production and complex advertisement billing methods, which will charge additional fees for automobile company clients. The automobile companies have cooperation with Internet celebrities marketing plan may not necessarily achieve the conversion of real appointment customers. Because the time limit of short videos and Internet celebrity bloggers do not necessarily know the specific information of cars, the first marketing plan does not suitable for clients in this project. Therefore, the clients in this project choose the second marketing solution, which is car cloud store live streaming marketing plan.

This project also including industry analysis, which helped project manager clarify the situation of live streaming industry. With the effect of pandemic, the live streaming industry has a great increase in recent years. More and more customers use live streaming for online shopping.

This phenomenon has stimulated the market growth of live streaming industry. At the same time, through automobile companies live streaming analysis, it is obvious that more and more companies are joining the live streaming industry to seek new business opportunities.

This project provides some interviews about typical automobile companies, including BMW, Mercedes-Benz and local automobile dealer. The interviews clearly indicate that the current marketing problems of those companies and cooperation cases with TikTok. For example, BMW has problem of maintenance the marketing performance, and their marketing department choose to cooperate with TikTok platform. Mercedes-Benz company in this interview has problem for their car promotion and face with different competitors in market. They choose to have an integrated marketing plan on TikTok platform. The local automobile dealer faced with effects of pandemic. They are searching for new opportunities on TikTok online marketing. Thus, the interview part of this project finds current marketing problems of automobile companies and future opportunities on TikTok platform.

This project also includes a survey that interviewed 100 practitioners in automobile industry. The survey respondents covers automobile dealers, automobile company employees, car sales, car store owners and others. This survey collected the respondents' marketing problems during the pandemic, their situations on TikTok automobile live streaming. By comprehensive data analysis, the result of this survey found that many automobile practitioners' business has been affected by the pandemic. More and more people accept TikTok automobile live streaming and want to use TikTok platform for long-term marketing.

The result of final car cloud store live streaming marketing plan could distribute user data from different regions into their local dealer information system where they are located. The

results of this marketing plan has greatly improve the sales volume of automobile companies and solve clients' problems that the conversion rate of customers.

In addition, the result of marketing plan in this project is that automobile enterprise clients are very satisfied with the current new marketing plan, which brings them extremely high marketing efficiency and satisfactory marketing effects. By opening their own live streaming accounts and using the user feedback system in different location, this new marketing method helps more automobile companies cooperate with the TikTok platform. At present, the number of car dealers who have cooperate with live streaming on the TikTok platform has reached nearly 5,000 covering nearly 80 brands. Through the live streaming, the users on platform with high intention and comments of various automobile companies have increased by 4.7 times. Also, the number of automobile companies and dealers live broadcasts increased by 2.6 times, which greatly attracted more customers for automobile companies.

In addition, the result of this project also include a marketing plan promotion website. This web page contains a detailed introduction to the contents of the TikTok car cloud store marketing plan. This website including the specific contents of marketing plan in this project, the live streaming process of automobile companies and the screenshots of car dealer's live streaming pages. This website also introduces the features of this marketing plan to users in details, such as how to interact with the car dealers in the live streaming room of automobile companies, what kind of information can be obtained and the precise contacts with the local car dealers. More importantly, this website also has an system for users to register and leave their contact information, which can further attract customers to have appointments with local car stores. This website play a more influential role in promoting the marketing plan adopted by the automobile companies in this project, allowing users to better understand the benefits of

automobile live streaming. The result of this website is attracting more users to participate in automobile live streaming on TikTok platform. The marketing effects for automobile companies is further improved by this website.

As a result, the project sponsor and clients were satisfied with the website and approved the contents of the website. The client thinks that the project shows the details of this marketing plan well and brings users a good browsing experience.

Repository of Data Sets and Code

The data sets created for this project and the code for the website may be found at:

<https://github.com/Mrspianist/TikTokAutomobileLivestreaming>

The link of this project website is: <https://ym2157.wixsite.com/tiktokautomobile>

Summary of Results

In conclusion, we found that automobile companies are facing some marketing problems under the pandemic and needs new marketing solutions for digital transformation. This project studies the cooperation between automobile companies and the TikTok platform for digital marketing plans. Through criteria analysis of business functions and costs, the more effective marketing is that automobile dealers open their own live streaming and conduct live car marketing. The final marketing plan also could send customer information from different regions to local automobile dealers of the same brand. This marketing method involves automobile dealers themselves in the process of live streaming. More and more automobile companies have joined this marketing method. At the same time, the website in this project has played an effective role in promoting the marketing plan, and the project sponsors and clients are satisfied with the marketing promotion effects of this project website.

Risk Analysis

In this report, risk analysis and contingency strategies in advance is efficient for this project. By listing the potential risks in this project and grading the corresponding risks with probability and impact scores, the project risk analysis emergency strategies are planned in advance for risks with higher influence and probabilities.

Some risks in this risk analysis list actually happened during the project. The contingency plan in this risk analysis has made an effect on solving real project issues. Firstly, one of the risks that project have difficulty in finding sufficient data during industry research has happened during the industry analysis process. In face of this scenario, project manager has an efficient meeting with project sponsor as soon as possible, in which project team discussed and evaluated the contingency plan for this risk. Finally, the project team accepted the contingency plan for this risk that industry analysis will select existing database fields, find multiple datasets and related literature. Based on the industry research of existing materials and literature, the industry research part of the project was successfully completed and met requirements of clients.

The second risk of this project was that the project manager has not sufficient website design skills. During the web design process, the project manager did encounter some problems, including the design and layout of the website and the website requirements of clients. In face with such problems, the project manager activated the risk contingency plan. The project manager improved web design skills and communicated with project sponsors weekly for advice. At last, the project manager utilized an advanced website creation tool and successfully made a website that met the client's requirements.

The following parts are some explanation of this project risk analysis plan. The first graph in this analysis plan is risk analysis and scores. Table two lists risks that the project may encounter and quantifies the probability and impact scores from 1 to 5.

Risk Analysis and Scores

Number	Risk	Probability Score (1,2 or 3)	Impact Score (1,2 or 3)
1	Not completing the project on time	1	3
2	Project budget decrease and affect website quality	2	2
3	Project quality does not meet clients' requirements before deadline	2	3
4	Project have difficulty in finding sufficient data during industry research	3	2
5	Not sufficient website design skills	3	3
6	Unforeseen automobile companies refusing to receive interviews	3	1

Table 2. Risk Analysis and Scores.

The next table is Risk Matrix. This table marks which risks need more attention by sorting the probability and impact scores in the previous table. Risks in the red zone require contingency plans.

Risk Matrix

	RISK (exposure)			
		1.Slight	2. Moderate	3. High
	1. Very Unlikely			1
	2. Possible		2	3
	3. Expected	6	4	5

Table 3. Risk Matrix.

The next table is risk contingency plan. For the risks that appeared in the red area of the previous Risk Matrix table, possible contingency plans are developed here to reduce risks or solve the risk problems.

Contingency Plan

Risk	Description	Probability (1-3)	Exposure (1-3)	Contingency Plan
1	Not sufficient website design skills	3	3	Project Manager need to improve website design skills by learning resources and receive website design advice from project sponsor in every project meeting.
2	Project quality does not meet clients' requirements before deadline	2	3	Project Manager need to update project progress with clients every week, follow up clients' requirements and receive project improvement suggestions in project meetings.
3	Project have difficulty in finding sufficient data during industry research	3	2	This project will select industry research in existing database fields, find multiple datasets and related literature.

Table 4. Contingency Plan.

The following picture is an indication of the specific project tasks that each member of the project team is responsible for. By using this RACI Matrix, the project team members could clarify tasks to each other and ensure that the project is carried out efficiently.

RACI Matrix

Project Tasks	Product Manager	Website Designer	Content Writer	Financial Analyst	Design Director	VP of Product	VP of Design	CTO	CEO
Initiation Phase									
Financial Study	R	C	R	R	C	A	I	I	C
Feasibility Study	R	C	R	C	C	A	I	I	I
Planning Phase									
Technology Recommendations	R	C	C	C	C	C	I	A	I
Financial Plan	R	I	R	R	C	A	I	I	I
Sprint Plan	R	I	R	C	C	A	C	I	I
Execution Phase									
Design Website	C	R	I	I	A	I	C	I	I
Write Content	R	R	R	C	I	A	C	I	I
Data Analysis	R	I	R	C	I	A	C	I	I
Create Website	R	C	C	C	A	A	I	I	I
Control Phase									
User Testing	R	I	R	C	I	A	I	I	I
Close Phase									
Create Marketing Plan	R	C	R	C	C	A	I	I	I
Create Closure Report	R	C	R	C	C	A	I	I	I

Responsible	R
Accountable	A
Consulted	C
Informed	I

Figure 14. RACI Matrix.

Issues Encountered

While working on the project, the team encountered some issues. All of issues the project team faced are minor issues which do not have major impact on project. All issues were solved immediately once indicated so that the project was able to finish on time with high quality. Here is all type of issues project team faced in the duration of the project.

The first issue the team faced was difficulties to find sufficient data for industry analysis. This issue was part of project risk management plan, and this issue was solved by previous mitigation plan. The industry research requires a lot of company data in the industry, including user data, sales data and financial data. The public data of some companies is incomplete, and some companies do not disclose detailed financial and monthly active user data because they do not have initial public offerings on Hong Kong or US stocks.

In face of this issue, our project team quickly launched an urgent meeting to analyze the missing points of the existing data and proposed solutions based on the situation. Due to the fact that some companies have lack of public data, those data dimension were missing and could not be collected completely. This project team utilized one of our mitigation strategies in risk management plan, created a change management plan and re-planned the analysis dimension of the data sets in the industry analysis part of this project. Finally, our project team solved the problem of missing data and maximized the use of the existing database.

The second issue our project team met was the website design have not sufficient skills. This issue was part of risk management strategies, which has been solved by mitigation plan in the risk analysis report. Our team members are mainly from marketing professional backgrounds. They have not received systematical training of website programming. When the website code

modification encountered problems, the project manager positively held emergency meetings with project sponsors and clients to adjust the website production plans and delivery standards. At the same time, the project manager learned a lot of website production knowledge during this project, held meetings with the project sponsors and listen to the project sponsors' opinions on a regular basis. In the production of website, the main contents is to display the project marketing plan and website production tool like WIX was utilized. Finally, the main contents of this project was made into a well-designed website, which was satisfied by the project sponsors and clients.

The third issue our project team met was some data privacy problems and unavailability issues. After determining the marketing plan with clients, automobile companies began launch live streaming on TikTok platform, generating some user test data such as user viewing and product sales data. Since those data are still in the testing stage and involve company data security, those data cannot be collected and displayed in this project reports. In response to this situation, our project team re-planned the project delivery standards and flexibly adapted to this problem.

This project helped me not only study industry knowledge, but also practice my problem solving skills. Through these issues in this project, I practiced how to cooperate with project team and how to solve urgent problems efficiently.

Project Chronology and Critique

The following table describe this project chronology and critique. The following table details Project Chronology and Critique. It details the task name, start date, due date, and duration. All tasks are closely planned by chronology order, and all the tasks are delivered on time. The project is guaranteed to meet all deadlines. The project working hours were 280 hours in total.

Level	Task Name	Start Day	Due By	Duration
1	Writing Project Proposal	01/26	02/10	14
2	Writing project WBS	02/15	02/10	5
3	Industry Analysis and Sponsor Agreement	02/10	02/22	7
4	Project Charter and Project Sponsor Reviews	02/22	03/01	7
5	Project Literature Review	03/01	03/08	7
6	Interview typical automobile companies	03/08	03/16	8
7	Project Change Management Plan	03/16	03/22	6
8	Writing Risk Management Plan	03/22	03/29	7

9	Determining marketing plan report with project sponsor	03/28	04/05	7
10	Writing Status Report	03/28	04/05	7
11	Define website contents and layout	04/05	04/10	5
12	Create the website main page	04/10	04/20	10
13	Writing alternate solutions	04/10	04/15	5
14	Approach and Methodology	04/15	04/20	5
15	Create website customer registration functions	04/16	04/21	5
16	Project Draft Completion Project Sponsor Completion Sign off	04/20	04/26	6
17	Final Project Presentation Preparation	04/20	04/28	8
18	Upload website code and datasets to Github	04/28	05/03	5
19	Final Report Completion	04/28	05/03	5

Table 5. Project Chronology and Critique.

Lessons Learned

The whole project was able to deliver as planned with expected quality in time and this could not have been done without contribution and help from all team members and sponsor. During the whole project implementation, the project team and I learned a lot of lessons from this project.

Firstly, the industry analysis and marketing plan process helped me explore and learn more about the current situation of the automobile industries, including their existing marketing problems during the pandemic and their motivations for digital marketing transformation. Through the research of this project, I have a better understanding of the automobile live streaming industry, as well as the specific demands of automobile companies.

Secondly, through the communication with the project sponsors on a regular basis, I learned how the TikTok platform cooperates with automobile companies and how the fees are calculated. In the process of launching the marketing plan, I set main criteria of business functions and cost to be combined with the real demands of automobile companies. After discussing with project sponsor and negotiating with clients, this project provided an efficient marketing plan named car cloud store on TikTok live streaming for automobile companies. In addition, during this project, I have learned more industry details, which will be helpful for me in future research and work.

In addition, this project taught me standard analytical methods. Under the leadership of the project professor, I learned the systematic project charter, proposal writing methods, risk analysis report and how to make a change management report in advance for possible changes. All these practices help me learn professional project management knowledge, which allowed

me to manage and carry out the project in a correct way and write a more structured project report.

More importantly, this project taught me how to use WIX to make web pages. In the process of making a website, it is necessary to consider the contents and overall layout of the website. It is also important to meet the main website functions required by clients. In addition, website design is also a very critical step. How to make beautiful web pages that meet the aesthetic requirements of customers is also what I learned during this project. In the process of making the website of this project, the project manager and the project sponsor held regular meetings to discuss the website designs. Project manager revised several versions according to the client's requirements. During the modification process of the project website production, I learned practical knowledge of website design and website typography tips.

Last but not least, one of the most important lessons I learned from this project was how to work with team and deal with emergency changes and issues. During this project, it is often collided with some new ideas during project meetings and discussions. When this project needs to change some plans, project manager will discuss with the project sponsor and clients to meet the client's requirements and get the project sponsor's approval. During this process, I learned the skills of teamwork and communication, and project team often exchanged some new ideas during meetings. This process allowed team to achieve satisfactory results for all parties in the project. In addition, this project research has also taught me the abilities to cope with unexpected problems. During the process of industry research, the project encountered the problem of not finding sufficient data. At that time, I wrote a project change management report on this problem, discussed with the project sponsor at the first time and proposed an emergency solution to this problem. In the end, the project sponsor approved my proposal, and this unexpected problem was

solved smoothly. This experience of dealing with emergency issues has taught me abilities to deal with unexpected problems in the project.

This project allowed me not only to learn industry knowledge and website production skills, but also exercise my teamwork, project management and problem-solving skills. This project is an important lesson in my postgraduate study life, and provides a good educational significance for my future life and work.

Conclusion and Summary

The project includes two deliveries, one is an digital marketing plan for the automobile companies, the other is a website created during this project for marketing promotion.

Automobile company clients finally selected the most suitable car cloud store live streaming marketing plan and the project team delivered marketing plan and website on time.

The digital marketing plan that automobile company clients determine in this project is car cloud store live streaming marketing plan, which has a division system for customers in different locations for their local automobile dealers. This digital marketing plan not only provides automobile company clients with vast customer resources on TikTok live streaming platform, but also have a system during live streaming that help local car dealer stores connect to target customers effectively. This marketing plan helped automobile companies really increase the number of effective customers and achieve their marketing goals.

The marketing plan promotion website created during this project includes organization description, marketing plan outstanding points, attractive website design, TikTok automobile live streaming description and customer online appointment system. All the structures and website contents have got satisfied by the clients and project sponsor. The code and link will be upload to GitHub platform.

In addition, the industry analysis, interviews typical automobile companies and surveys in this project provides a solid background for this project research. The result of industry analysis found that the live streaming industry has explosive market growth in recent years. Many automobile companies are searching for opportunities in live streaming industry. This project also interviewed typical companies like BMW, Mercedes-Benz and local automobile

dealers to find their marketing problems and cooperation with TikTok. Moreover, the surveys of 100 respondents provides more data supports for this project. The summary of surveys is finding marketing problems in different automobile practitioners and their situation on TikTok platform.

In conclusion, this project is an effective project with rich contents. The project team not only provided innovative live streaming marketing plan for automobile companies, but also solved the existing problems of automobile companies. The website created in this project efficiently promotes the live streaming marketing plan. This is a project that is really satisfied by clients, which could see the actual marketing increase. All the documents and project contents were approved by project sponsor, and the deliverable in this project will complete on time.

The copy of this report as well as website code and data sets created for this project could be found at: <https://github.com/Mrspianist/TikTokAutomobileLivestreaming>

The website link of this project is: <https://ym2157.wixsite.com/tiktokautomobile>

The survey questions in this project could be found at:

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_5hWDNVb9IBHD2Z0

Limitations, Recommendations and Scope for Future Work

Even as this project was able to deliver as expected, there are still some limitations within this project and some of the limitations may be improved in the future similar projects in NYU MASY.

Firstly, one of the limitations within this project was the data security problem. Due to the data security requirements of this project organization, some user test data and customer sales data for this marketing plan cannot be displayed in the report research. This part of user data testing will be continued by project sponsors and project departments after this report to verify the promotion results of the marketing plan among customers.

Moreover, the website functions and designs were limited in this project. This project's website is a basic, promotional website that matches the contents of the project's marketing plan. The website in this project did not have advanced technical and design requirements from clients. However, this website also has certain limitations. As time permits, the website should include more pages and more detailed introductions and user interaction functions. The website production technology of the project team and project manager needs to be further improved, and the user test, feedback stages of this website need to be included in the future work.

The recommendations for this project is to add the user requirements part. The users on the live streaming platform is the target of the marketing plan, and user's experience directly affects the final marketing results. By understanding the user's marketing strategies, this project could attract more users and achieve the desired marketing effects. This user requirement part will be included in future work using department security user data. Thus, in addition to

investigating the existing problems of auto companies, the marketing plan should also include user demands and feedback.

For future work areas, there are some tasks that are not in the scope of this project and need to continue in the future projects. These tasks will continue to be completed by project sponsors and organization departments after the completion of this project. Future work will provide feedback on user test data. After the live streaming marketing plan is promoted and used, the project department will monitor and analyze the user activity data, follow up the situation of the user data and give feedback to the automobile company clients. Meanwhile, the project department will also collect user feedback to test the final effects of the live streaming marketing plan and the company's revenue increase during this marketing plan. In addition, the project department will also follow up with the automobile company clients and continue to optimize live streaming marketing plan in their future work.

Literature Survey

Introduction

The literature review is an effective method to provide foundation of knowledge on my project. By reviewing literature review, my project will have an efficient way to identify areas of prior scholar articles to give credit to other researchers and notice the gaps in research. In this way could help my project better find innovative perspectives. The criteria to be used in this literature review is the correlation and values of analysis. By comparing many articles, this literature reviews choose the articles that have some methods could provide knowledge foundation for my project and articles with comprehensive industry analysis. For example, live streaming e-commerce featured with a sense of “instant fulfillment” it rarely fails to provide, now is deemed as an attractive and reasonable shopping way, more than offline shopping in which the fulfillment of needs is delayed, thus generating uncertainty, especially under the consistent, worldwide influence of the COVID-19 pandemic (Si, 2021). This literature has both profound industry analysis and relates to live streaming e-commerce that I will analyze in my project. The next following parts are some subtopics that elaborate on this literature review in more details. Web pages are a good medium to display product information and provide better user experience. It shows that the website’s promotion methods to maintain customers and the guarantee of product quality and brand can not only significantly affect website browsing rate (Paul et al., 2016), but also helps consumers becoming more willing to share their consumption experience. Thus, the development of marketing plan promotion website would be more efficient for customers to know automobile companies’ products on TikTok livestreaming platform.

Without website, customers will not have sufficient information to know the products they have intentions to buy. Those operators without websites to promote their products, the marketing efficiency will be affected if there are not websites or lack of information. Marketing elements that are insufficiently visible will fail to generate beneficial interactions for the website operator (Jarosław et al., 2016). With many dependencies affecting user experience, website developers and marketers have looked for ways to analyze the effects of interactivity on web user (Teo, 2003).

The reason why operators use website is that using website is an efficient way to contact with customers and provide better experience for customers. Organizations worldwide use various types of web technologies in online marketing to attract and maintain customers as well as gather necessary information and knowledge to gain a competitive advantage over their competitors (Majeed, 2011). Therefore, the marketing website will improve customers' engagement in their purchase services.

During the determination process of making this website, I had two different methodology choices to create this website. One is Waterfall and the other is Agile software development cycle. I decided to use Agile method to create website because Agile encourages the team to work simultaneously on different phases of the project, but Waterfall is a linear system of working that requires the team to complete each project phase before moving on to the next one (Hoory & Bottorff, 2021). My project has comprehensive contents and limited time budget that needs to work simultaneously during the process. That is the reason why I choose Agile approach to create website.

My project will use HTML development language to create this website. Hypertext mark-up language (HTML) is the non-programmable technology used to create most websites. It can be

augmented with other features, and it is these features that add complexity to webpages and are often the barriers to accessibility (Hackett, Parmanto & Zeng, 2007). Thus, I choose HTML as development language to create website in this project.

I choose to use website to promote the automobile marketing products on live streaming platform.

The websites have been evidenced by much research that websites play important roles in livestreaming E-business. The Internet and web technologies have played important roles in transitioning business transactions from the offline to an online environment (Kirk, Ractham & Abrahams, 2016). Organizations worldwide use various types of web technologies in online marketing to attract and maintain customers as well as gather necessary information and knowledge to gain a competitive advantage over their competitors (Majeed, 2011). Based on previous research, I choose website as marketing promotion tools in my project.

I got data from financial statements, surveys, and interviews. By interviewing with different automobile companies, the data collection will be up to date, which will provide an analytical database for website to work. For example, managers would like to know the customer job positions. This information can be collected through surveys, and assists in improving the website (Weischedel, Huizingh, 2006). Therefore, survey is an efficient way to provide data in the project.

The rise of live streaming industry and marketing mode motivate more analysis in this field. Live streaming has been a popular topic in today's Internet information age. Today's prosperity of live streaming e-commerce is crucially relevant to the loyalty of customers established in a closed-loop process of purchase. In the past few years, China's live streaming e-commerce has saw a downtrend of average user age and a rising popularity in the non-first-tier cities, meaning a good many of the Chinese younger generation living in less developed cities and small towns are

keen on filling their leisure time with watching commercial live streams, which is quite the opposite of home shopping's user structure in the aspects of age and region (Si, 2021).

Some literature performs their work through a general analysis in Internet marketing without specially in live streaming services. This literature provides general industry analysis in social media and websites, provides three typical platforms. Therefore, the prevailing trends showed the use social websites like Facebook, Twitter, Google+, etc. and most visited websites as their prime space loaded with advertisements (Bagga, 2014).

This study provides a trend analysis in live streaming industry. The live streaming industry is very popular nowadays, a comprehensive live streaming industry analysis will help literature to carry out further research in this industry with different focuses. Live streaming commerce is a subset of e-commerce embedded with real-time social interaction (including real-time video and text-based chat channels) (Cai & Wohn, 2019; Hamilton et al., 2014). In live streaming, seller's expressions and interactions with a product can be transmitted to customers in real time although they are spatially separated from each other (Wongkitrungrueng, Dehouche & Assarut 2020).

This article has used previous study about livestreaming, which provides great foundation in the next step analysis.

The purpose of this study is providing a digital marketing plan for automobile companies on livestreaming platform. The approach I took for this study was qualitative research to understand concepts and thoughts in this industry. There are several literatures used this approach for their studies and got clear conclusions. For example, Gilbert (2019) recognized that individuals and organizations alike can strengthen their social media marketing with livestreaming video. By using qualitative approach to review the rise of social media and explain the role of

livestreaming, his paper proposed live streaming video strategies and concluded by discussing the risks and rewards of live streaming.

According to previous literature reviews, other study has usage of this model during their studies. For example, Wongkitrungruenga, A., Assarutb, N. (2020) had their report measurement model by calculating individual loadings, composite reliability scores, Cronbach's alpha, and average variance extracted (AVE). Based on this threshold, three items were dropped from the analysis. In this project, I will use Descriptive, Diagnostic and Prescriptive analysis approaches at the basis of study. The Descriptive analysis approach helps me analyze the status about livestreaming industry, which provides background foundation for further analysis. Also, the Diagnostic analysis approach is a statistical analysis will help me deal with data collection. And the Prescriptive analysis approach will help me provide a solution to solve problems of automobile companies' marketing. Those method are common in previous literature review, for example, continuous growth has resulted in millions of viewers watching the anchors perform live each night on China's most popular livestreaming platforms, creating an estimated \$5 billion dollar industry (Lin & Lu, 2017). This literature used both Descriptive and Diagnostic to analyze the status of livestreaming industry with statistical data collection.

The choices made in my project was that using livestreaming platform to promote products for automobile companies. In face of different platform options like short videos, online websites, I choose livestreaming as the appropriate platform by other research supports. For instance, the real-time interactions between customers and streamers in livestreaming shopping will bring a strong sense of telepresence to customers (Suna, et al., 2019).

I will get the data from financial statements, surveys, and interviews. If any database were needed for this project, I would collect data from the automobile company interviews. There are

series of literatures have surveys in their reports and provide survey data analysis. For example, to better understand this socio-technological phenomenon, they conducted a mixed methods exploration that included an online survey and interviews with regular users in China (Lu, Xia, Heo & Wigdor 2018). They interviewed 14 participants who participated in the survey and agreed to participate in a follow-up interview.

Conclusions

The research and studies I reviewed support a comprehensive background for my project. From literature reviews, livestreaming is a very fast-growing industry in Internet era, and many commerce modes has been found on different livestreaming platforms. Live streaming is increasingly used by individual, small sellers worldwide as a new interactive direct selling channel for selling products, ranging from clothing, electronics to furniture, jewelry, and food (Chen, 2017). The literature reviews revealed that live streaming is effective in increasing sales leads, enhancing customer experience, and building customer engagement. These benefits can be reaped at different levels among sellers who employ different sales approaches and strategies to attract and retain their customers (Wongkitrungrueng et al., 2020).

Therefore, Livestreaming is an effective marketing method for customers to enhance new purchase experience and have many selling opportunities for traditional industry products. Those literature reviews help me have knowledge background of livestreaming industry analysis, surveys data collection methods and analytical models. By reviewing those literature, I will write further reports more efficiently based on studies about livestreaming industry and customer engagement conclusions. Moreover, these literatures are different because most of the previous literature are general analysis about livestreaming industry, seller, and customer behavior analysis. My project will provide an innovative analysis, which combines livestreaming

customer analysis with specific automobile companies. The literature reviews help my project define the livestreaming industry prospects and need to explore this marketing in specific applied industry.

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Appendix A - Project Acceptance Document

Sponsor's Project Acceptance Document

This document is the means by which your project sponsor formally agrees that your project has been satisfactorily completed and that it meets the project goal and objectives that were set at the onset of the project. It is therefore important that you describe the goal, objectives, and related metrics in the appropriate section below. The "PLAN" section is to be prepared at the beginning of the project and the "RESULTS" and "ACCEPTANCE" sections after your project has been completed. Your sponsor should provide input and sign where indicated. The signed document will also be a required section in your Project Final Report. This document is a template whose sections may be expanded as necessary.

PLAN

(To be filled out and signed at the start of the project)

Project Name: ___ Marketing Plan Analyzer: Digital Marketing Plan of Automobile Companies on TikTok Livestreaming ___

Student Name: ___ Yue Mao ___

Sponsoring Organization: ___ ByteDance ___

Project Sponsor Name and Title: ___ Chongyang Fan, Marketing Manager in ByteDance ___

Project Sponsor Contact Information (email and phone): ___ chongyangfan530@gmail.com fanchongyang@bytedance.com ___ 86-18514756646 ___

Planned Start Date: ___ 02/01/2022 ___

Planned End Date: ___ 05/03/2022 ___

PROJECT PLAN

At project start, show the project goal; the project objectives and related metrics to be used to show successful project completion. Sponsor should sign to indicate agreement.

Project Goal ___ ☒ ___ Provide a digital marketing plan for automobile companies on TikTok livestreaming platform.

Objective #1 ___ ☒ ___ Write a livestreaming industry trend analysis and calculate data from financial statements & Questmobile. Use R and Tableau to analyze data.

Objective #2 ___ ☒ ___ Interview some automobile companies to find traditional automobile companies' marketing problems.

Objective #3 ___ ☒ ___ Provide a digital marketing plan for automobile companies on TikTok livestreaming to attract more customers.

Objective #4 ___ ☒ ___ Create a website to promote automobile customers' marketing products on TikTok livestreaming and provide the registration system for users.

I agree with the above planned project goal, project objectives, and related metrics.

Chongyang Fan

Project Sponsor Signature

02/21/2022
Date

RESULTS

(To be filled out and signed at the end of the project)

PROJECT RESULTS

Planned Start Date: 02/01/2022

Planned End Date: 05/03/2022

Actual Start Date: 01/26/2022

Actual End Date: 05/03/2022

If actuals differ from planned dates, the revised dates (Actual) are accepted by the sponsor if initialed here: **Sponsor Initials** CCF

Project Goal

Provide a digital marketing plan for automobile companies on TikTok livestreaming platform.

Was the project goal achieved as planned? ☒ Yes ☐ No **Sponsor Initials** CCF

Reason missed: _____

If NO, please explain why this is an acceptable deviation. _____

Project Objective #1: Write a livestreaming industry trend analysis and calculate data from financial statements & Questmobile. Use Tableau to analyze data. CCF

Objective#1 ☒ has or ☐ has not been met. **Sponsor Initials** _____

Project Objective #2: Interview some automobile companies to find traditional automobile companies' marketing problems.

Objective#2 ☒ has or ☐ has not been met. **Sponsor Initials** CCF

Project Objective #3: Provide a digital marketing plan for automobile companies on TikTok livestreaming to attract more customers.

Objective#3 ☒ has or ☐ has not been met. **Sponsor Initials** CCF

Project Objective #4: Create a website to promote automobile customers' marketing products on TikTok livestreaming and provide the registration system for users. CCF

Objective#4 ☒ has or ☐ has not been met. **Sponsor Initials** _____

Sponsor's Overall Evaluation of student's performance: Excellent (expand, as necessary)

ACCEPTANCE

(To be filled out and signed at the end of the project)

PROJECT ACCEPTANCE

☒ Project was completed satisfactorily and is hereby accepted

☐ Project was completed satisfactorily but did not meet all objectives, as shown above.
The Project is, nevertheless, accepted.

Chongyang Fan

Project Sponsor Signature

04/26/2022
Date

Yue Mao

Student Signature

04/26/2022
Date

Appendix B - Project Sponsor Agreement

New York University MS in Management and Systems Applied Project Project Sponsor Agreement

Goals of the Program

For Participating Organizations

- Begin relationship with New York University
- Receive help from highly trained NYU graduate student
- Provide internship opportunity for NYU graduate student
- Receive assistance at no cost

For NYU Graduate Students

- Manage and implement a meaningful project aligned with their professional and educational goals
- Hands-on experience interacting with a start-up or operational small business or organization
- Earn credit toward completion of graduate degree by conducting an unpaid Applied Project under the mentorship of an NYU-SCPS professor.

Project Sponsor and Student Responsibilities

- Student prepares project planning documents
- Sponsor reviews and approves student's project plan
- Student submits project plan to faculty supervisors for approval
- Student conducts project according to plan
- At predetermined milestones sponsor reviews and approves status reports submitted by student
- Status reports reviewed and evaluated by faculty supervisors to assure student effort and project meet course requirements
- Project sponsor and student participate in periodic project reviews with NYU
- At project completion project sponsor completes evaluation forms
- Student prepares final report

Project Selection Process

- Project Evaluation Committee reviews proposed projects
- Projects are:
 - Relevant to MS degree course content
 - Significant to the participating organization
 - Substantial in terms of duration and scope
 - Challenging to the student
 - Capable of being measured against predetermined goals

The MS in Management and Systems

Concentrations in:

- Strategy and Leadership
- Systems Management
- Database Technologies
- Enterprise Risk Management

Typical Participating Student Profile

- Students selected to participate in this program meet stringent criteria
- Have completed all coursework
- High achievers with highest level GPAs and strong academic credentials
- 2-10 years of business experience
- Highly motivated for success

Sponsor and Project Information

Type of Organization	<input checked="" type="checkbox"/> For Profit <input type="checkbox"/> Not for Profit				
Name of Organization	ByteDance				
Address	Zhongxing Building, No. 19 Huayuan East Road, Haidian District, Beijing, China.				
City	Beijing	State	Beijing	Zip	100191
Project Sponsor	First Name	Chongyang	Last Name	Fan	
Title	Marketing Manager				
Phone	86-18514756646				
Email	chongyangfan530@gmail.com fanchongyang@bytedance.com				
Web Site	https://www.bytedance.com/en/				
Type of Business	ByteDance is a technology company operating a range of content platforms like TikTok and Douyin.				

Student Name	Yue Mao
Project Title	Project Manager

Description of Project		
<p>This project will find problems and demands of automobile companies' marketing situations and provide a digital marketing plan for automobile customers on TikTok platform. TikTok advertisement department plans to create a more effective marketing plan combined with TikTok livestreaming for automobile companies. This marketing plan needs to make more efficient use of TikTok's platform and have better customer effects on the automobile companies. This project will also include a website design to promote automobile marketing products on TikTok platform.</p>		
Estimated Hours of Student Participation	280 hours	

Anticipated Results		
<p>Database and report for livestreaming industry analysis using Tableau and R. A new marketing plan for automobile companies to attract more users in TikTok livestreaming platform and a well-designed website for marketing plan promotion.</p>		

Knowledge and expertise student will need to be able to complete the project
1. Project Management. For this project, student will need project management knowledge to initiate the project, plan, execute, monitor, and close the project.
2. Industry Analysis. Student will need industry analysis, database design and visualization knowledge to conduct research and make them into a research report.
3. Marketing Strategy. Student will use the marketing strategy knowledge to help the automobile companies design a creative marketing plan.
4. Website Design and Data Analysis. Student will use data web application and database design & management knowledge. To successfully complete this project, I will need to review website design tools like HTML & PHP and utilize database analysis tools like Oracle and Tableau.

Will the project sponsor be available for periodic meetings with NYU to review progress, address questions and concerns with the professor supervising the program? <i>This is a requirement for the program</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe the form and frequency of supervision of the student by the Project Sponsor.	
<p>The Project Sponsor will have a supervision meeting with student every other week via Zoom or WeChat. If student has any questions, it will be possible to discuss with Project Sponsor during the weekdays.</p>	

Sponsor Agreement

Students are interns, not professional consultants. NYU is not responsible for the outcomes of projects undertaken by students. Work is on a best-efforts basis; no guarantees or warranties are expressed or implied. Organization is responsible for evaluating work presented, determining its value and whether to use it or not. Some projects may require on-going management or even re-work by the Organization after the student completes their Applied Project.

Please note that in order to post an unpaid position, the internship must encompass all 6 components below:

1. The internship, even though it includes actual operation of the facilities of the employer, is similar to training which would be given in an educational environment;
2. The internship experience is for the benefit of the intern;
3. The intern does not displace regular employees, but works under close supervision of existing staff;
4. The employer that provides the training derives no immediate advantage from the activities of the intern; and on occasion its operations may actually be impeded;
5. The intern is not necessarily entitled to a job at the conclusion of the internship; and
6. The employer and the intern understand that the intern is not entitled to wages for the time spent in the internship.

I have read and agree with the information shown in the Terms and Conditions for employers contained on the following web page(s): <http://www.nyu.edu/life/resources-and-services/career-development/employers/post-a-job/terms-and-conditions.html>

Please complete and sign this form in the space provided below and return to the course professor via the student who will upload the document to the course drop-box. For any questions, please email the professor: Prof. Israel Moskowitz im36@nyu.edu.

I agree to all of the above

Participating Organization ByteDance

Date 02/21/2022

By (signature): *Chongyang Fan*
Project Sponsor

Printed Name: CHONGYANG FAN

Title: Marketing Manager

Student Agreement

Students who are planning to conduct an unpaid Applied Project must read and agree to the "Important Considerations Before Accepting a Job or Internship" contained on the following web page(s): <http://www.nyu.edu/life/resources-and-services/career-development/find-a-job-or-internship/important-considerations-before-accepting-a-job-or-internship.html>.

Students do not register their Applied Project with the Wasserman Center.

I agree to the all of the above

Student Name (Print) YUE MAO

Date 02/21/2022

Signature: *Yue Mao*

Appendix C - Project Charter

Project Charter

Project Manager: Yue Mao

Sponsor: Chongyang Fan

Prepared by: Yue Mao

Name and Location of Client Organization: ByteDance, Zhongxing Building, No. 19 Huayuan East Road, Haidian District, Beijing, China.

1. Project Goal

Traditional automobile companies are undergoing digital marketing transformation. This project will find problems and demands of automobile companies' marketing situations and provide a digital marketing plan for automobile customers on TikTok platform. TikTok advertisement department plans to create a more effective marketing plan combined with TikTok livestreaming for automobile brand customers. This marketing plan needs to make more efficient use of TikTok livestreaming platform and have better customer effects on the automobile companies. This project will also include a website design for promoting automobile marketing products on TikTok livestreaming platform.

2. Problem/Opportunity Definition

Nowadays, the traditional marketing mode of automobile companies has certain problems. Some existing marketing methods have a limited number of customers and cannot reach more users. The TikTok platform has those automobile customers in their marketing department. TikTok needs to help those automobile customers to find a new marketing plan. In this project, I will address a brand-new marketing plan for better customer growth to deal with automobile business marketing issues.

3. Proposed Project Description

First, I will compile an industry analysis to find the trend of main companies in livestreaming industry. During this analysis, the development trend of livestreaming industry and business performance in different companies will be clearly displayed using Tableau and R tools. After that, this project will interview representative automobile companies to find problems and demands in their traditional marketing strategies. The profile and current marketing problems of those typical automobile companies will be notified in this part. In addition, with the demands of automobile companies, this project will provide automobile companies a digital marketing plan on TikTok livestreaming platform. Finally, I will create a website to promote automobile marketing products in TikTok and provide the registration system for users.

4. Project Sponsor(s)

The project sponsor is ChongYang Fan, who is a marketing manager in TikTok advertisement department in ByteDance.

5. Objectives

Object 1 – Write a livestreaming industry trend analysis and calculate data from financial statements & Questmobile. Use R and Tableau to analyze data.

Measurement: Finish the livestreaming industry data analysis by the Mar 8th, 2022.

Object 2 – Contact with my sponsor and interview some automobile companies to find traditional automobile companies’ marketing problems.

Measurement: Finish the typical automobile companies’ marketing problems and demands report by Mar 25th, 2022.

Object 3 – Provide a digital marketing plan for automobile companies in TikTok live streaming to attract more customers.

Measurement: Deliver the digital marketing promotion plan by Apr 5th, 2022.

Object 4 - Create a website to promote automobile customers’ marketing products in TikTok livestreaming and provide the registration system for users.

Measurement: Deliver complete website and report accepted by client by May 3rd, 2022

6. Project Selection & Ranking Criteria

(This section describes how this project was selected to be carried out as a project)

Project benefit category:

	Compliance/Regulatory
	Efficiency/Cost reduction
X	Revenue increase

Portfolio fit and interdependencies

The automobile companies are main customer in my sponsor's department, they have limitation in their traditional store sale methods. Those automobile companies are urgent to search for a method to expand their customer channels. It's important to find an efficient project to increase automobile companies' customers. After data tests on TikTok livestreaming, there are more than 10 million livestreaming views and hundreds of millions video viewers every day. More important, TikTok livestreaming enterprise account has been popular in customer companies. TikTok Livestreaming has become one of the most suitable channels for car viewing and inquiries. Therefore, this project is important and independent, not only for better use the viewers resources on TikTok livestreaming platform, but also help automobile companies to attract more customers and increase revenue.

Project urgency

This project is urgent and must be done over the next 6 months. Because our automotive company customers have yearly agreements with the sponsor's departments, it is necessary for us to provide marketing programs for automobile customers and see actual customer growth and revenue increase.

7. Cost/Benefit Analysis

Tangible Benefits

Benefit: This project will increase revenue in TikTok livestreaming department and automobile companies.

Value & Probability: This project will increase number of customers in automobile companies and improve sales volume.

Assumptions Driving Value: This project will achieve the ideal results and meet the revenue and commission of automobile companies.

Intangible Benefits

Benefit: This project will have more exposure of automobile companies and TikTok livestreaming platform.

Value & Probability: This project will promote the TikTok livestreaming platform to attract more companies to have their accounts.

Assumptions Driving Value: This project will improve the popularity and reputation of TikTok livestreaming platform and automobile companies.

Cost Categories

Internal Labor hours: This project will take 300 hours in total.

External costs: The website logo, interview survey fees and automobile companies' costs will become the external costs.

Labor (consultants, contract labor): None

Equipment, hardware, or software: This project will use project manager's laptop and live voice recorder as equipment.

List other costs such as travel & training: None

Financial Return

This project may have a financial return when the marketing plan achieves revenue increase for the automobile companies.

8. Assumptions

1. Project Manager is skilled in Excel, SQL, Tableau to analyze datasets during this project.

2. Project Manager is skilled in HTML and PHP to create the marketing plan promotion website.
3. Project Sponsor and Project Manager have regular meetings during the project schedule timeline.
4. The automobile companies' interview could be performed regularly, and project related datasets are available.

9. Scope

Quality

The quality of this project will provide a complete marketing plan that rationally utilizes TikTok livestreaming user resources and suits the conditions of automobile companies.

The quality of this project will provide a usable web page showing the marketing plan and promotion products.

Time

This project has time constraints. The calendar dates of this project are from February 1st to May 3rd. The final due date of this project is May 3rd and there will be 300 hours allocated to this project.

Resource Allocation

The computer equipment is project manager's computer, which is used for analysis and programming. The project manager and project sponsor are allocated to this project. The project manager is responsible for writing reports, data analysis and creating website. The project sponsor is responsible for consulting and providing project essential information.

Out of scope activities

This project will not be responsible for the revenue increase of automobile companies after marketing plan. This project only provides an effective marketing plan, but the extensions market launch and revenue increase will not be tackled within this project.

Constraints

1. The data analysis and website creating expertise of project manager is entry level in this project.
2. The programming language will be used in this project are entry-level SQL, Tableau, and Excel analytical tools for data analysis.

The advanced UI/UX design will not be used in this project website due to the constraints of project manager's technology level.

The amount of clients' time is limited for meetings and questions is up to 6-10 times.

10. Communications Plan

1. Frequency: The project manager and the clients will have the meeting every other week.
2. Method: The communication plan method is using Zoom and WeChat meetings.
3. Content: The content of regular meeting is in several aspects. Firstly, this meeting will update the client the project status. Then, the project manager will discuss questions in project that have issues. During this meeting, the client will help project manager to have to resolve those issues in projects and provide related consulting information.

11. Schedule Overview

Project Start Date: February 1st, 2022

Estimated Project Completion Date: May 3rd, 2022

Major Milestones:

There are four major milestones in this project.

The first milestone is the completion of livestreaming industry analysis. This part needs data analysis and large amount of literature reviews. A deeply industry analysis is the completion evaluation for this milestone.

The second milestone is the completion of interviews. In this part, the project sponsor and project manager will have some interviews with automobile companies. By finishing interviews and collecting interview data, this milestone will be finish.

The third milestone is providing the digital marketing plan and complete the analysis of this marketing plan. Finishing the marketing plan report will be one of the signals of complete this milestone.

The last milestone is the completion of a marketing plan promotion website. All the codes and website functions should be done to finish this milestone.

External Milestones Affecting the Project: None

12. Impact of Late Delivery

For client, the late delivery of project will affect the client and automobile companies to meet their results on time as they negotiated before. This late delivery will have an impact on their next step plan. For personal, the late delivery will affect project manager's capstone grades in this course.

13. Resources Required

Personnel: Yue Mao

Role	Responsibilities	Duration of work	Qualifications needed
Project Manager	Determine all the project goals and project charts	From January 27 th to May 3 rd .	Project management training
Project Analyst	Writing project report, analyzing data, and creating website.	From January 27 th to May 3 rd .	Project Analyst need to know Excel, SQL, and Tableau for data analysis.

Facilities, Software, Hardware, and other Resources

This project will need project manager's computer, and computer programs including analytical tools like Microsoft Excel and Tableau, programs like Oracle SQL Developer, PHP and HTML.

Procedures/ Methodology

This project will create a marketing plan and website. The standard procedures of marketing plan including marketing goals, conducting market research, analyzing the competitor, identifying target audience, determining a budget, developing specific marketing strategies.

The standard methodology in creating marketing plan including SWOT Analysis and Porter Five Forces Model.

The procedures of creating a website including registering domain name, determining company information, preparing website contents, and writing website code. Some standard methodology in creating this website including Waterfall and Agile software development cycle.

14. Project Plan, Gantt

This part will be referred to Gantt chart attached.

Project Name

Project Client Organization

Project Start Date: 1/27/2022 (Thursday)

Display Week: 1

Project Manager: Yue Mao

WBS	Task	Start	End	Days	%Done	WorkDays
1	Functional Specification	Thu 1/27/22	Tue 2/22/22	27		19
1.1.1	Writing project proposal draft	Thu 1/27/22	Tue 2/01/22	6	100%	2
1.1.2	Reviewing with sponsor	Wed 2/02/22	Fri 2/04/22	3	100%	3
1.1.3	Revising by professor	Sat 2/05/22	Mon 2/07/22	3	100%	1
1.1.4	Writing final proposal	Tue 2/08/22	Thu 2/10/22	3	100%	3
1.2	Writing project WBS	Fri 2/11/22	Tue 2/15/22	5	100%	3
1.3	Project sponsor agreement	Wed 2/16/22	Tue 2/22/22	7	100%	5
2	Planning	Wed 2/16/22	Tue 4/05/22	49		35
2.1	Project Charter	Wed 2/23/22	Tue 3/01/22	7	30%	5
2.2	Literature review	Wed 3/02/22	Tue 3/08/22	7	30%	5
2.3	Change Management Plan	Wed 3/09/22	Tue 3/22/22	14	30%	10
2.4	Risk Management Plan	Wed 3/23/22	Tue 3/29/22	7	30%	5
2.5	Status Report	Wed 3/30/22	Tue 4/05/22	7	30%	5
3	Industry Analysis	Wed 2/16/22	Wed 3/16/22	29		21
3.1	Collect industry information	Wed 2/16/22	Tue 2/22/22	7	30%	5
2.2	Create key database	Wed 2/23/22	Sat 2/26/22	4	30%	3
2.3	Use Tableau to analyze industry trends	Sun 2/27/22	Thu 3/03/22	5	20%	4
2.4	Write industry analysis report	Fri 3/04/22	Tue 3/08/22	5	20%	3
2.5	Review industry analysis with sponsor	Wed 3/09/22	Sun 3/13/22	5	0%	3
2.6	Approval of industry analysis	Mon 3/14/22	Wed 3/16/22	3	0%	3
4	Create Marketing Plan	Sun 3/13/22	Fri 4/08/22	27		20
4.1	Interview typical automobile companies	Sun 3/13/22	Sat 3/19/22	7	0%	5
4.2	Typical automobile companies survey report	Sun 3/20/22	Sat 3/26/22	7	0%	5
4.3	Discuss marketing plan with sponsor	Mon 3/28/22	Fri 4/01/22	5	40%	5
4.4	Alternate marketing solutions report	Sat 4/02/22	Fri 4/08/22	7	20%	5
5	Create website	Sat 4/02/22	Mon 5/02/22	31		21
5.1	Define contents and layout	Sat 4/02/22	Wed 4/06/22	5	0%	3
5.2	Create website main page	Thu 4/07/22	Sat 4/16/22	10	0%	7
5.3	Create customer appointment system	Sun 4/17/22	Sat 4/23/22	7	0%	5
5.4	Revise website designs with sponsor	Sun 4/24/22	Tue 4/26/22	3	0%	2
5.5	Publish final version	Wed 4/27/22	Fri 4/29/22	3	0%	3
5.6	Upload website code to GitHub	Sat 4/30/22	Mon 5/02/22	3	0%	1
6	Final report and presentation	Fri 4/08/22	Tue 5/03/22	26		18
6.1	Refine project contents with proposal	Fri 4/08/22	Sun 4/10/22	3	0%	1
6.2	Conclusion and summary of project	Mon 4/11/22	Fri 4/15/22	5	0%	5
6.3	Draft project report	Sat 4/16/22	Mon 4/25/22	10	0%	6
6.4	Presentation to clients	Tue 4/26/22	Thu 4/28/22	3	0%	3
6.5	Final project report	Fri 4/29/22	Tue 5/03/22	5	0%	3
TEMPLATE ROWS						
See the Help worksheet for information about using template rows.						
1	[Task Category (label only)]					
2	[Task Category (summary)]	Thu 1/27/22	Thu 1/27/22	1		1
2.1	[Level 2 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1
2.1.1	. [Level 3 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1
2.1.1.1	.. [Level 4 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1

15. Project Evaluation

1. Project schedule

This project will meet the milestone deadline and the final due date. The client and project sponsor will sign the project completion document, project acceptance document before the due date to make sure this project will be delivered on time.

2. Project weekly status report and dashboard

The tool for project weekly status is Gantt chart. In the Gantt chart, there are milestones and timeline to put in. The project manager will keep the Gantt chart updated to clients. This Gantt chart will help clients know the project weekly status and where the project is on time. Once project manager completes each milestone and task the Gantt chart will show completion.

3. Project communication plan, issues log, risk register

The communication plan is weekly meetings with clients about the project progress and project plan in the next steps. The project manager will give client a project status formula, which will tell them what the project did in the past week, what is working on now and what will do in the future. The project required to fill the status form out and get assigned by client that he agrees the level of progress.

4. Project status reports

This project will do the project status reports and weekly meetings. The project report is in the middle of project. This report will respect all the milestones and tasks. Also, this report will confirm the project is on the right track and it will be complete on time.

Appendix D - Project WBS Plan

1. Functional Specification

1.1 Writing project proposal

1.1.2 Reviewing with sponsor

1.1.3 Revising by professor

1.1.4 Writing final proposal

1.2 Writing project Work Breakdown Structure

1.3 Project sponsor agreement

2. Planning

2.1 Project Charter

2.2 Literature review

2.3 Change Management Plan

2.4 Risk Management Plan

2.5 Status Report

3. Industry Analysis

3.1 Collect industry information

3.2 Create key database

3.3 Use Tableau to analyze industry trends

3.4 Write industry analysis report

- 3.5 Review industry analysis with sponsor
- 3.6 Approval of industry analysis
- 4. Create Marketing Plan
 - 4.1 Interview typical automobile companies
 - 4.2 Typical automobile companies survey report
 - 4.3 Discuss marketing plan with sponsor
 - 4.4 Alternate marketing solutions report
- 5. Create website
 - 5.1 Define contents and layout
 - 5.2 Create website main page
 - 5.3 Create customer appointment system
 - 5.4 Revise website designs with sponsor
 - 5.5 Publish final version
 - 5.6 Upload website code to GitHub
- 6. Final report and presentation
 - 6.1 Refine project contents with proposal
 - 6.2 Conclusion and summary of project
 - 6.3 Draft project report
 - 6.4 Presentation to clients

6.5 Final project report

Work Breakdown Structure

Project Name

Project Client Organization

Project Start Date: 1/27/2022 (Thursday)

Display Week: 1

Project Manager: Yue Mao

WBS	Task	Start	End	Days	%Done	WorkDays
1	Functional Specification	Thu 1/27/22	Tue 2/22/22	27		19
1.1.1	Writing project proposal draft	Thu 1/27/22	Tue 2/01/22	6	100%	2
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1.1.4	Writing final proposal	Tue 2/08/22	Thu 2/10/22	3	100%	3
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2.6	Approval of industry analysis	Mon 3/14/22	Wed 3/16/22	3	0%	3
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4.1	Interview typical automobile companies	Sun 3/13/22	Sat 3/19/22	7	0%	5
4.2	Typical automobile companies survey report	Sun 3/20/22	Sat 3/26/22	7	0%	5
4.3	Discuss marketing plan with sponsor	Mon 3/28/22	Fri 4/01/22	5	40%	5
4.4	Alternate marketing solutions report	Sat 4/02/22	Fri 4/08/22	7	20%	5
5	Create website	Sat 4/02/22	Mon 5/02/22	31		21
5.1	Define contents and layout	Sat 4/02/22	Wed 4/06/22	5	0%	3
5.2	Create website main page	Thu 4/07/22	Sat 4/16/22	10	0%	7
5.3	Create customer appointment system	Sun 4/17/22	Sat 4/23/22	7	0%	5
5.4	Revise website designs with sponsor	Sun 4/24/22	Tue 4/26/22	3	0%	2
5.5	Publish final version	Wed 4/27/22	Fri 4/29/22	3	0%	3
5.6	Upload website code to GitHub	Sat 4/30/22	Mon 5/02/22	3	0%	1
6	Final report and presentation	Fri 4/08/22	Tue 5/03/22	26		18
6.1	Refine project contents with proposal	Fri 4/08/22	Sun 4/10/22	3	0%	1
6.2	Conclusion and summary of project	Mon 4/11/22	Fri 4/15/22	5	0%	5
6.3	Draft project report	Sat 4/16/22	Mon 4/25/22	10	0%	6
6.4	Presentation to clients	Tue 4/26/22	Thu 4/28/22	3	0%	3
6.5	Final project report	Fri 4/29/22	Tue 5/03/22	5	0%	3
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2.1	[Level 2 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1
2.1.1	. [Level 3 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1
2.1.1.1	.. [Level 4 Task]	Thu 1/27/22	Thu 1/27/22	1	0%	1

Appendix E - Risk Management Plan

Project

This project name is Marketing Plan Analyzer: Digital Marketing Plan of Automobile Companies on TikTok Livestreaming. This project will find problems and demands of automobile companies' marketing situations and provide a digital marketing plan for automobile companies on TikTok platform. The project will also include a website design for promoting automobile marketing products on TikTok platform.

Risks

Number	Risk	Probability Score (1,2 or 3)	Impact Score (1,2 or 3)
1	Not completing the project on time	1	3
2	Project budget decrease and affect website quality	2	2
3	Project quality does not meet clients' requirements before deadline	2	3
4	Project have difficulty in finding sufficient data during industry research	3	2
5	Lack of website design skills	3	3
6	Unforeseen automobile companies refusing to receive interviews	3	1

Risk Matrix

		RISK (exposure)		
Probability (of occurrence)		1.Slight	2. Moderate	3. High
	1. Very Unlikely			1
	2. Possible		2	3
	3. Expected	6	4	5

Contingency Plan

Risk	Description	Probability (1-3)	Exposure (1-3)	Contingency Plan
------	-------------	-------------------	----------------	------------------

1	Lack of website design skills	3	3	Project Manager need to improve website design skills by learning resources and receive website design advice from project sponsor in every project meeting.
2	Project quality does not meet clients' requirements before deadline	2	3	Project Manager need to update project progress with clients every week, follow up clients' requirements and receive project improvement suggestions in project meetings.
3	Project have difficulty in finding sufficient data during industry research	3	2	This project will select industry research in existing database fields, find multiple datasets and related literature or create surveys to collect data in interviews.

RACI Matrix

Project Tasks	Product Manager	Website Designer	Content Writer	Financial Analyst	Design Director	VP of Product	VP of Design	CTO	CEO
Initiation Phase									
Financial Study	R	C	R	R	C	A	I	I	C
Feasibility Study	R	C	R	C	C	A	I	I	I
Planning Phase									
Technology Recommendations	R	C	C	C	C	C	I	A	I
Financial Plan	R	I	R	R	C	A	I	I	I
Sprint Plan	R	I	R	C	C	A	C	I	I
Execution Phase									
Design Website	C	R	I	I	A	I	C	I	I
Write Content	R	R	R	C	I	A	C	I	I
Data Analysis	R	I	R	C	I	A	C	I	I
Create Website	R	C	C	C	A	A	I	I	I
Control Phase									
User Testing	R	I	R	C	I	A	I	I	I
Close Phase									
Create Marketing Plan	R	C	R	C	C	A	I	I	I
Create Closure Report	R	C	R	C	C	A	I	I	I

Responsible	R
Accountable	A
Consulted	C
Informed	I

Appendix F - Change Management Plan

Project Name:	Marketing Plan Analyzer: Digital Marketing Plan of Automobile Companies on TikTok Livestreaming
Prepared by:	Yue Mao
Date (MM/DD/YYYY):	03/22/2022

1. Purpose

The purpose of this Change Management Plan is to:

- Ensure that all changes to the project are reviewed and approved in advance.
- All changes are coordinated across the entire project and adjust to effective controls.
- All stakeholders and Project Team are notified of approved changes to the project.

All project Change Requests (CR) must be submitted in written form using the Change Request Form provided.

[Link To Project Change Request Form](#)

The project team should keep a log of all Change Requests.

[Link To Project Change Request Log](#)

2. Goals

The goals of this Change Management Plan are to:

- Give due consideration to all requests for changes.
- Identify, evaluate, approve, and track changes through start to completion.
- Define change request process of different impact assessment levels.
- Modify Project Plans to reflect the impact of the changes requested.
- Bring the appropriate parties (depending on the nature of the requested change) into the discussion and maintain the effective transparency of change requests.
- Negotiate change requests and communicate recommendations to Project Team.

3. Responsibilities

<i>Those responsible for Change Management</i>	<i>Their Responsibilities</i>
<ul style="list-style-type: none"> • Project Manager (with the Project Sponsor) 	Developing and signing the Change Management Plan. Assessing and facilitating the change management process.
<ul style="list-style-type: none"> • Project Manager 	Conducting reviews of all change management activities with project sponsor and clients on a periodic basis. Writing Change Request (CR) in project change management process and

3. Responsibilities

<i>Those responsible for Change Management</i>	<i>Their Responsibilities</i>
	updating activities according to feedback.
<ul style="list-style-type: none"> Project Sponsor 	Reviewing all project change activities with project manager and assess appropriate project change plans for approval.
<ul style="list-style-type: none"> Project Clients 	Assessing the impact of project change management activities on the project outcome and providing approval of project change requests.
<ul style="list-style-type: none"> The Executive Committee 	<p>Ensuring that adequate resources and funding are available to support execution of the Change Management Plan.</p> <p>Approving Change Management Plan and ensuring that the Change Management Plan is implemented.</p>

4. Process

The Change Management process occurs in eight steps:

1. Identify potential project changes.
2. Communicate potential changes with Project Sponsor.
3. Submit written Change Request (CR) according to communication results.
4. Review Change Request (CR) and approve or reject for further analysis.
5. If approved, perform analysis and develop recommendation for changes.
6. Accept or reject the recommendation and modify documents.
7. If accepted, update project reports and re-plan project schedule.
8. Notify all stakeholders of the changes.

In practice the Change Request process is a bit more complex. The following describes the change control process in detail:

1. **Any stakeholder can request or identify a change. He/she uses a *Change Request Form* to document the time of the change request.**
2. **The completed form is sent to Project Manager of the Project Team who enters the CR into the *Project Change Request Log*.** [Link To Project Change Request Log](#)
3. **CRs are reviewed daily by the Project Team and assigned one four possible outcomes:**
 - *Reject:*
 - Notice is sent to the submitter.
 - Submitter may appeal (which sends the matter to the Project Team).
 - Project Team reviews the CR at its next meeting.
 - *Defer to a date:*
 - Project Team is scheduled to consider the CR on a given date.
 - Notice is sent to the submitter.

4. Process

- *Accept for analysis immediately (e.g., emergency):*
 - Submitter may appeal (which sends the matter to the Project Team).
 - Project Team reviews the CR at their next meeting.
 - An analyst is assigned, and impact analysis begins.
 - Project Team reviews the analysis at its next meeting.
 - Project Team is notified the CR and take consideration.
 - *Accept for consideration by the project team:*
 - Project Team reviews the CR at its next meeting.

4. All new pending CRs are reviewed at the Project Team meeting. Possible outcomes:

- *Reject:*
 - Notice is sent to the submitter.
 - Submitter may appeal (which sends the matter to the Project Sponsor, and possibly to the Executive Committee).
 - Executive Committee have final review and decision of CRs.
- *Defer to a date:*
 - Project Team is scheduled to consider the CR on a given date.
 - Notice is sent to the submitter.
 - Submitter may appeal (which sends the matter to the Project Team).
 - Project Team reviews the CR at their next meeting.
- *Accept for analysis:*
 - An analyst is assigned and impact analysis begins
 - Project Team reviews the analysis at its next meeting.

5. Once the analysis is complete, the Project Team reviews the results.¹ Possible outcomes:

- *Reject:*
 - Notice is sent to the submitter.
 - The submitter may appeal which solves the matter to the Project Sponsor (and possibly to the Executive Committee).
 - Executive Committee have final review and decisions.
- *Accept:*
 - Project Team accepts the analyst's recommendation.
 - Notice is sent to Project Sponsor as follows:
 - Low-impact CR – Information only, no action required.
 - Medium-impact CR – Sponsor review requested; no other action required.
 - High-impact CR – Sponsor approval required.
- *Return for further analysis:*
 - Project Team has questions or suggestions that are sent

¹ Note: Sponsor participates in this review if the process needs Sponsor's action or the analysis was done at Sponsor's request.

4. Process

back to the analyst for further consideration.

6. Accepted CRs are forwarded to the Project Sponsor for review of recommendations. Possible outcomes:

- *Reject:*
 - Notice is sent to the submitter.
 - Submitter may appeal to the Project Sponsor and Executive Committee.
 - Project Sponsor and Executive Committee review for final consideration.
- *Accept:*
 - Notice is sent to the submitter.
 - The CRs are forwarded to Project Sponsor for review of recommendations.
 - Project Team have re-plan meetings.
 - Project Manager modifies relevant project documents.
 - Project Team acts on the new plan.
- *Return for further analysis:*
 - The Sponsor has questions or suggestions that are sent back to the analyst for further consideration.
 - Notice is sent to the submitter.
 - Analyst's recommendations are reviewed by Project Team (return to *Step 5*).

5. Notes on the Change Control Process

<Modify Sections 3 and 5 to meet the needs of your project.>

1. A Change Request is:

- Included in the project only when both Sponsor and Project Team agree on a recommended action.

2. The CR may be:

- *Low-impact* – Has no material effect on cost or schedule. Quality is not impaired.
- *Medium-impact* – Moderate impact on cost or schedule, or no impact on cost or schedule but quality is impaired. If impact is negative, Sponsor review and approval is required.
- *High-impact* – Significant impact on cost, schedule, or quality. If impact is negative, Project Sponsor, Executive Committee review and approval is required.

3. For this project:

- *Moderate-impact* – Fewer than 5 business days change in schedule; less than \$100 change in budget; one or more major use cases materially degraded.
- *High-impact* – More than 10 business days change in schedule; more than \$100 change in budget; one or more major use cases lost.

4. All project changes will require some degree of update to project documents:

- *Low-impact* – Changes likely require update only to requirements and specifications documents.
- *Moderate- or high-impact* – depending on the type of change, the following documents (at a minimum) must be reviewed and may require update:

<i>Type of Change:</i>	<i>Documents to Review (and update as needed):</i>
------------------------	--

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Scope | <ul style="list-style-type: none"> ▪ Scope Statement and WBS ▪ Budget |
|---|---|

5. Notes on the Change Control Process

- | | |
|------------|---|
| | <ul style="list-style-type: none"> ▪ Project Schedule ▪ Resource Plan ▪ Risk Management Plan ▪ Requirements ▪ Project Proposal ▪ Specifications |
| ▪ Schedule | <ul style="list-style-type: none"> ▪ Project Schedule ▪ Work Breakdown Structure ▪ Budget ▪ Resource Plan ▪ Risk Management Plan |
| ▪ Budget | <ul style="list-style-type: none"> ▪ Budget ▪ Project Schedule ▪ Resource Plan ▪ Risk Management Plan |
| ▪ Quality | <ul style="list-style-type: none"> ▪ Budget ▪ Project Schedule ▪ Resource Plan ▪ Risk Management Plan ▪ Quality Plan ▪ Requirements ▪ Project Final Report |

5. Project documents:

Whenever changes are made to project documents, the version history is updated in the document and prior versions are maintained in an archive. Edit access to project documents is limited to the Project Manager, Project Sponsor and Clients in the Project Team.

- For this project, all electronic documents are kept in (select one of the following and describe it in the adjacent space provided):

☐ Version Control System:

- ☐ Central storage available to the Project Team: All the electronic documents, including project proposal, research papers, project change management plan and other documents are kept in the project cloud storage. All the documents are available to modified and reviewed by the Project Team.

☐ Other:

- For this project, all paper documents are kept in (select one of the following and describe it in the adjacent space provided):

- ☐ Project file maintained by the Project Manager: All the electronic documents, including project proposal, research papers, project change management plan and other documents are kept in the Project Manager's laptop. All the documents are maintained by Project Manager in a regular basis.

☐ Other:

- The following individuals have edit access to project documents:

5. Notes on the Change Control Process

Role	Documents
<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> All current documents Project archive Project website code Project Proposal and Final Reports Research Papers
<ul style="list-style-type: none"> Project Sponsor 	<ul style="list-style-type: none"> Project Proposal Project Change Management Plan
<ul style="list-style-type: none"> Project Clients 	<ul style="list-style-type: none"> Project Proposal Final Project Presentation and Reports

6. Project Change Management Plan / Signatures

Project Name:	Marketing Plan Analyzer: Digital Marketing Plan of Automobile Companies on TikTok Livestreaming		
Project Manager:	Yue Mao		
<i>I have reviewed the information contained in this Project Change Management Plan and agree:</i>			
Name	Role	Signature	Date (MM/DD/YYYY)
Yue Mao	Project Manager		03/22/2022
Chongyang Fan	Project Sponsor		03/22/2022

The signatures above indicate an understanding of the purpose and content of this document by those signing it. By signing this document, they agree to this as the formal Project Change Management Plan.

Appendix G - Status Report

Project Status Report

Digital Marketing Plan of Automobile Companies on TikTok Livestreaming

Status Report – April 5th 2022

To: Dr. Andres Fortino **cc:** Chongyang Fan
From: Yue Mao fanchongyang@bytedance.com
Date: April 5th, 2022

YOUR ANTICIPATED COMPLETION DATE: May 3rd, 2022
COMPLETION SEMESTER: Spring 2022

Project Status Areas:	Execution Week <x>		
	Green	Yellow	Red
1. Overall Project Status	Overall Project Status is going well in process.		
2. Project Schedule	This project schedule is not changed and expected to deliver on time. The process of creating website need to have more time per day to complete.		
3. Project Deliverables	All project deliverables expected to deliver by May 3 rd , 2022.		
4. Issues	Some issues were encountered but already solved in progress. The data collection requirements of specific automobile companies have certain changes.		
5. Project Risks	The potential risk of project is having difficulty in finding sufficient data during industry research. Possible mitigation has been approved by clients.		
6. Resources & Collaboration	Data collection and interview survey of specific automobile companies are resources and collaboration in this project.		
7. Change Status	The change status has been approved by clients. This project research need to collect data in existing data resources of automobile companies.		

1 – Overall Project Status
Status – Overall
<ul style="list-style-type: none"> Project opportunities and problems, importance of project, industry analysis has been done so far on time. The interview survey questions was approved by project clients. Execution Week 11 we focused on the website design and contents description. The whole group worked well.

2 – Project Schedule	
Tasks that are not on schedule per work plan	Impact
Process of creating website	Increasing time of creating website per day

3 – Project Deliverables
<p>COMPLETED DELIVERABLES: Risk Analysis Plan, Project Charter, Literature Review, etc.</p> <p>UPCOMING DELIVERABLES: Final project report and final presentation slides.</p>

4 – Issues
<p>The user test data for marketing plan in this project will not be included because data security issues.</p> <p>Data collection requirements of specific automobile companies have certain changes.</p> <p>The process of collecting resource about specific automobile companies have not sufficient data.</p>

5 – Project Risks	
Potential Risks	Possible Mitigation
Project have difficulty in finding sufficient data during industry research.	This project will select industry research scope in existing data resources, find multiple datasets and related literature or create surveys to collect data in interviews.

6 – Resources and Collaboration
Resources and collaboration in this project are data collection and interview survey of specific automobile companies.

7 – Change Status	
Scope Changes	Status (Requested Approved Completed)
This project need to collect data in existing data resources of automobile companies.	Approved

Comments/Actions
The process of project goes well and will keep on schedule.

8 – Sponsor Signoff	
Sponsor indicates agreement with the above status report.	
Chongyang Fan	<i>Chongyang Fan</i>
Approved. Keep working on project. 04/05/2022	

Assessment Guidelines

The assessment is designated by one of the three "Traffic Light" colors utilizing the following guidelines:

Each project should establish the appropriate project slippage metrics for yellow vs red status

Executive Summary:	Assessment		
	Green	Yellow	Red
Overall Project and Most status areas	No major issues, minimal risk to project, on target with expected outcomes, project on schedule, everyone satisfied with progress.	Some major issues, moderate risk to project, must monitor closely, some internal or/and external dissatisfaction with progress. Project plan slipping by 2+ days.	Significant issues, serious risks to project, significant intervention must occur to achieve success, potential for stoppage of project activity. Project slipping by 5+ days, and resources uncommitted to meet deliverables.

Appendix H - Annotated Bibliography

1. Si, R. (2021). China Livestreaming E-commerce Industry Insights. *Palgrave Macmillan, Singapore*. 1-105.

This book analyzes multiple aspects of the Chinese livestreaming e-commerce industry, including its development and evolution, macro environment, market landscape, platforms, streamer structure trends, influencers, production, and explosive marketing methods, MCN operations, risk assessment and policy management. It not only describes the highly developed state of the industry in China and how it has advanced further because of COVID lockdowns, but also focuses on the problems of livestreaming e-commerce and proposes solutions and development strategies. Investigating the development trends, the book also discusses how far livestreaming e-commerce can go during the wind-up period...

In this book, it describes Chinese livestreaming e-commerce industry, which is the same with my applied project topic main industry direction. The reason why I want to choose this literature is that the industry analysis part in this paper, like impact of livestreaming rising in different aspects, especially provides some short video platform examples including TikTok and Kwai. This book provides information related to my livestreaming industry analysis part.

2. Lu, Z., Xia, H., Heo, S., & Wigdor, D. (2018). You Watch, You Give, and You Engage: A Study of Live Streaming Practices in China. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 21-26.

Despite gaining traction in North America, live streaming has not reached the popularity it has in China, where live-streaming has a tremendous impact on the social behaviors of users. To better understand this socio-technological phenomenon, we conducted a mixed methods study of live streaming practices in China. We present the results of an online survey of 527 live streaming users, focusing on their broadcasting or viewing practices and the experiences they find most engaging. We also interviewed 14 active users to explore their motivations and experiences. Our data revealed the different categories of content that was broadcasted and how varying aspects of this content engaged viewers. We also gained insight into the role reward systems and fan group-chat play in engaging users, while also finding evidence that both viewers and streamers desire deeper channels and mechanisms for interaction in addition to the commenting, gifting, and fan groups that are available today...

This literature provides review of the opportunities and challenges of live streaming, and the user engagement in livestreaming. This article empirically examined user's live streaming practices in China. More importantly, this article has interview data collection and surveys, which is related to the interview methods that will provide in my paper.

3. Lin, J., & Lu, Z. (2017). The Rise and Proliferation of Live-Streaming in China: Insights and Lessons. *Communications in Computer and Information Science*, 714(7), 632-637.

The \$5 billion dollar live streaming industry has a tremendous impact on the social behaviors of internet users in China. However, despite early appearance of the technology in the North America, live streaming has yet to reach the level it has in China. Using observations from the rise and proliferation of live streaming services in China, we identify some culture and social insights about the phenomenon as well as some lessons that we can apply to North America...

This article wrote the rise insight of livestreaming and effects on Mainstream Media. There also has been research in other related fields, like mobile live video chatting, online video sharing, and specialized video streaming services. The reason why I choose this article is that the analysis of this article is very close to the real situation of China's livestreaming market and has detailed charts for my paper to learn from.

4. Cao, X. (2019). Bullet Screens (Danmu): Texting, Online Streaming, and the Spectacle of Social Inequality on Chinese Social Networks. *Theory, Culture & Society* 38(3), 29-49.

For theorists interested in screen cultures and the digital economy, looking beyond Facebook and YouTube prompts a more refined conceptualization of participation and monetization on social networks. This paper examines YY as representative of Chinese platforms that monetize spectacles of social inequality. I first discuss why these financially successful platforms have eluded the attention of media and cultural critics, and then explain how these social network platforms blend subversive texting with streaming through a format called 'bullet screen'. This format collapses social inequality into a spectacle of money flowing and vanishing on screen. This investigation contributes to the theoretical discussion of mixed semiotics, reorients several Marxian neologisms and explains what texting means on screen in both semiotic and economic terms...

This literature deeply analyzes what drives the socially influential and financially successful streaming platforms. Also, this article analyzes new business models and the methods that users have payments in livestreaming. The reason why I choose this literature is that those livestreaming business modes are related to what my sponsor's department used in projects.

5. Hou, F., Guan, Z., Li, B., & Chong, L. (2019). Factors influencing people's continuous watching intention and consumption intention in live streaming Evidence from China. *Internet Research*, 30(1), 141-163.

The purpose of this paper is to investigate what factors can affect people's continuous watching and consumption intentions in live streaming. This research conducted a mixed-methods study. The semi-structured interviews were deployed to develop a research model and a live streaming typology. A survey was then used for quantitative assessment of the research model. Survey data were analyzed using partial least squares-structural equation modeling. The results suggest that sex and humor appeals, social status display and interactivity play considerable roles in the viewer's behavioral intentions in live streaming and their effects vary across different live streaming types. Research limitations/implications – This research is conducted in the Chinese context. Future research can test the research model in other cultural contexts. This study can also be extended by incorporating the roles of viewer gender and price sensitivity in the future...

This literature analyzes global live streaming markets, trends, and challenges, which has profound livestreaming industry analysis with data support. This article figures

out important factors that may affect livestreaming watching intention, like social status display, humor appeal and sex appeal. The reason why I choose this article is that important factors in this article could provide a comprehensive foundation for my livestreaming user analysis.

6. Katrin, S. (2016). Information Behavior on Social Live Streaming Services. *Journal of Information Science Theory and Practice*.4(2), 6-20.

In the last few years, a new type of synchronous social networking services (SNSs) has emerged—social live streaming services (SLSSs). Studying SLSSs is a new and exciting research field in information science. What information behaviors do users of live streaming platforms exhibit? In our empirical study we analyzed information production behavior (i.e., broadcasting) as well as information reception behavior (watching streams and commenting on them). We conducted two quantitative investigations, namely an online survey with YouNow users and observations of live streams on YouNow. YouNow is a service with video streams mostly made by adolescents for adolescents. YouNow users like to watch streams, to chat while watching, and to reward performers by using emoticons. While broadcasting, there is no anonymity. Synchronous SNSs remind us of the film The Truman Show, as anyone has the chance to consciously broadcast his or her own life real-time.

This literature has profound information behavior analysis of users on social livestreaming services. In this article, it has surveys for users to know their typical preferences like performer types and channel behavior. I choose this article because the survey part and industry analysis provide an outstanding example for me to study the user behavior, which helps my project provide more suitable marketing plan for customers.

7. Gilbert, A.M. (2019). Strengthening Your Social Media Marketing with Live Streaming Video. *Smart Technologies and Innovation for a Sustainable Future. Advances in Science, Technology & Innovation*, 357-365.

With more than 3 billion users worldwide, social media has transformed marketing; it offers individuals and organizations alike the ability to attract, convert, and transform consumers effectively and affordably. Mirroring the growth of social media are mobile devices: there are more than 5 million unique mobile users worldwide with nearly 2.8 million people accessing social media with mobile devices and 80% of worldwide internet users owning at least one smartphone. Mobile video is a particularly promising platform to communicate to consumers; 80% of Internet traffic will be video by 2019 and 74% of consumers are more likely to buy a product or service after watching a branded video. However, recorded video is costly and cumbersome to produce; live streaming video decreases costs while increasing customer engagement and enhancing influence. Recognizing that live streaming video can strengthen social media marketing strategies, this paper reviews the rise of social media, explains the role of live streaming video, previews live streaming video platforms, proposes live streaming video strategies, shares live streaming video survey results, and evaluates the impact of live streaming video...

This article provides both livestreaming industry analysis, including role of social media, user sizing, and livestreaming contents strategies. This article also provides

surveys to investigate how different individuals and organizations market their products on live video streaming platforms. The reason why I choose this literature is that the surveys result in this article about the product marketing of different organizations on live streaming will provide a good study for my marketing plan in my project paper.

8. Wongkitrungrueng, A., Dehouche, N., & Assarut, N. (2020). Livestreaming commerce from the sellers' perspective: implications for online relationship marketing, *Journal of Marketing Management*, 36(5), 488-518.

Live streaming has recently become a popular direct selling channel which offers small, self-employed seller's unseen levels of consumer interaction and engagement. While the extant research focused on consumer motivation and intention to shop via live streaming, little is known from the seller's perspective. Indeed, the potential advantages of live streaming commerce are accessible to everyone, but sellers experience different levels of success with this medium. Using a mixed quantitative and qualitative approach, this study analyses Facebook data of live streaming sellers to assess the nature and extent of engagement metrics, and delineate the dynamic, interactive live streaming sales process. We identify four sales approaches and twelve strategies adopted in acquiring and retaining customers. This typology of sales approach representing seller-focused antecedents is mapped against the relationship process and outcomes to provide a framework for understanding relationship mechanisms in live streaming commerce...

This article provides livestreaming commerce background, main livestreaming commerce channels. By analyzing typical livestreaming commerce channels in this article, especially sellers who share their personal lives with their customers and sell products via live streaming, this literature offers more detailed advice on a variety of sales approaches and strategies on live streaming. Those sales strategies and studies in this literature could provide a great reference for my marketing plan analysis in project.

9. Suna, Y., Shao, X., Li, X.T., Guo, Y., & Nie, K. (2019). How live streaming influences purchase intentions in social commerce: An IT affordance perspective. *Electronic Commerce Research and Applications*, 37(1), 51-217.

As a new form of social commerce, live streaming shopping is becoming increasingly popular among Chinese consumers, which has aroused great interest among practitioners and researchers. Building a theoretical model from the perspective of IT affordance, our study examines how live streaming influences social commerce customers' purchase intentions in China. We empirically measure the model by surveying customers who have shopped via live streaming shopping platforms including Taobao.com, JD.com, Mogujie.com, and Sina Microblog. Our results show that visibility affordance, metavoicing affordance, and guidance shopping affordance can influence customer purchase intention through live streaming engagement. Our study highlights the importance of understanding the implications of IT affordance for social commerce...

This article provides livestreaming reviews, especially in social commerce, affordance lens and customer engagement. More importantly, this literature analyzes social commerce, purchase intentions from IT perspective. I choose this article because it helps me deeply analyze customer behavior and engagement and provides IT perspective to measure this topic in my paper.

10. Wongkitrungrueng, A., & Assarutb, N. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers, *Journal of Business Research*, 117(1), 543-556.

Live streaming services, whereby video is broadcast in real time, have been adopted by many small individual sellers as a direct selling tool. Drawing on literature in retailing, adoption behavior, and electronic commerce, this paper proposes a comprehensive framework with which to examine the relationships among customers' perceived value of live streaming, customer trust, and engagement. Symbolic value is found to have a direct and indirect effect via trust in sellers on customer engagement, while utilitarian and hedonic values are shown to affect customer engagement indirectly through customer trust in products and trust in sellers sequentially. Elucidating the role of live streaming in increasing sales and loyalty, these findings suggest different routes through which small online sellers can build customer engagement with two types of trust as mediators. Theoretical and managerial implications of this analysis for social commerce are further discussed at the conclusion of this paper...

This article provides analysis of customer engagement in livestreaming online marketing, including social commerce and livestreaming research, methodology and models. This literature also provide discussion about how to improve customer trust in livestreaming marketing. The measure models like AVE model in this literature helps me learn more efficient ways to analyze survey data in my project report.

11. Yu, C.Y., & Lo, R.A. (2020). Factors Affecting Customers' Purchase Intentions in Live Streaming Shopping. *Journal of Management & Decision Sciences*, 3(2), 1-12.

Live streaming refers to the broadcasting live video in real-time to an audience over the internet. Live streaming offers businesses a more authentic and effective way to engage with customers and build their brands. There has been an increasing demand for this real-time interaction from customers, promoting the remarkable growth of live streaming shopping in recent years. This study aims to explore the factors that can affect customers' purchase intentions in live streaming shopping. With this purpose, we proposed six key factors: product quality, price, customer service, trust, company's reputation, and sales promotion. Different methods were employed including conducting qualitative focus group and questionnaire to examine the relationships of the studied factors with the purchase intention in live streaming shopping context. The research reveals that these six factors can have influence on customers' willingness to purchase via live streaming. In addition, the perceived risks such as security and privacy concern, product performance, and potential loss of time are found to have negative effect on the intention of buying, meanwhile, customers' trust built from reading online reviews and a good streamer is

proven to have reducing effect on these perceived risks. The practical implications of the findings and future research directions are also discussed...

This literature demonstrates livestreaming industry reviews, popular livestreaming services providers, and factors affect customers' purchase attention. The main factors like product quality, price, customer service, trust, company's reputation, sales promotion, will influence customers' purchase intentions in live streaming shopping. By using focus group methods, this literature proves those factors' influence on customer intentions. This article provides the main factors affecting customers purchase intention, which helps me have better marketing plan design in the project.

12. Bagga, T. (2014). Internet Marketing by Automobile Industry: Special Reference of Indian Counterparts. *International Journal of Computer Applications*, 97(6), 9-16.

The central idea behind this paper is to ponder on the fact that how is Internet Marketing is being widely used as a tool in the Automotive sector in India for imparting mass scale knowledge of their products and for large scale promotions. These days Automotive companies face survival challenges in the market, especially India with quite many potential buyers. Thus, Internet Marketing comes handy when it comes to selling of brand ideas and concepts. The paper deals with statistical study enlisting information about vigorous promotional activities on social media by different Automobile manufacturers. It focuses on how three different automobile companies with different origins practice Internet Marketing for sales and promotions of their product. It shows the comparison between German manufacturer Volkswagen, South Korean manufacturer Hyundai and French manufacturer Renault. The main reason for choosing these companies is because of all the three having different origins. So, to learn how the three different originating companies practice Internet Marketing in India, the German, French and South Korean Manufacturers were chosen. Moreover, these three companies are quite popular in India as a large volume of their vehicles can be seen on the roads. These companies' products are in a good demand too. Hence it was a good selection to find how three different nation-based companies use social media sites like Facebook, Twitter and Google+ and the data was collected first week of January 2014 to the end of second week of February 2014...

This literature discuss Internet marketing is an effective way to impart mass scale knowledge of automotive products for promotions. This article analyzed automotive products sales by industry marketing, which is closely related to my project. I have learned through this literature about the industry analysis and situation of automotive industry in Internet marketing.

13. Shalender, K., & Singh, N. (2015). Marketing Flexibility: Significance and Implications for Automobile Industry. *Global Journal of Flexible Systems Management*, 16(3), 251-262.

Marketing flexibility plays critical role in success and survival of organization in rapidly changing business environment. The purpose of the study is to give a conceptual framework of marketing flexibility integration for automobile organizations. For this, study draws upon extensive literature review on concepts of flexibility and marketing flexibility. Then under the case-study research methodology, carefully selected real-world cases having high contextual relatedness are analyzed and inferences are drawn about significance of marketing flexibility for auto companies. Cases are evaluated at multi-level and both straight and cross-pattern learning are derived that, in turn, are used in developing conceptual framework. Study concludes with the finding that enhanced business-environment turbulence and increased market-dynamism has made it mandatory for automobile organizations to have requisite level of flexibility in their marketing-mix. Organizations with marketing flexibility are better equipped in dealing with short-term demand fluctuations as well as long-term existential threats emanating from the ever-changing business environment...

This literature demonstrates the marketing flexibility integration for automobile organizations. Marketing flexible gains competitive advantage because of its ability to change and reposition itself rapidly within competitive global markets. The study has a special significance for my project that it proves the turbulence in automobile industry has made it mandatory for organizations to have marketing flexibility, like using new platforms and social media.

14. Falát, L., & Holubčík, M. (2017). The Influence of Marketing Communication on Financial Situation of the Company – A Case from Automobile Industry. *Procedia Engineering*, 192(1), 148-153.

Marketing communication is a way how to provide selected information to customers, ideally with the fastest and in the most efficient form. Well set marketing communication of the company can presume the increment in the number of its customers which is often the significant factor of increase in sales. However, costs are linked with transforming marketing idea (using selected marketing communication channel and tool) into the final form which address customers. The goal of this paper is to use knowledge from the marketing communication of automobile company Tesla Motors, Inc. to gain information about efficient communication channels and tools which are currently used. We observe the relation of marketing strategy compared to financial situation, respectively financial characteristics. of selected communication channels and tools. Using real case of Tesla Motors authors suggest recommendations of efficient marketing communication in current environment as effective from financial perspective and beneficial in terms of building relationships with customer.

This literature demonstrates the marketing communication effects on financial situations of companies, especially in automobile industry. In the conclusion of this literature, the more marketing communication makes customers find credible, trendy, and worthwhile, the more the automobile companies can build up a good reference. This research is related to my project both in the automobile industry and potential marketing communication studies in livestreaming.

15. Nwokah, N.G., & Aeene, F.L. (2017). Social Media Marketing and Business Success of Automobile Dealers in Rivers State. *American Journal of Industrial and Business Management*, 7(12), 1298-1319.

This research study was carried out to empirically examine the relationship between social media marketing and business success of automobile car dealers in Rivers State, Nigeria. The study involved one hundred and sixty (160) respondents using questionnaire as the major instrument. After data cleaning one hundred and forty-three (143) copies of questionnaire were used for analysis with statistical tool Spearman Rank Order correlation coefficient with statistical package for social science (SPSS). It was found that there is a significant relationship between Facebook, Twitter and YouTube that significantly influenced sales growth, market share and profitability. The study concluded that Facebook, Twitter, and YouTube significantly influence sales growth, market share and profitability of automobile car dealers in Rivers State. The study recommends amongst others that: Firms should make Facebook, Twitter, and YouTube advertisement catchier, appealing and trendy for online customers to patronize their products. The study suggested that more empirical research should be carried out on other social media platforms such as MySpace, LinkedIn, Friendster, Kype and Instagram. This study further suggests that additional studies should be carried out in other states of the country so that we can compare the outcome with the present study...

This literature demonstrates the situation that Internet business models in a vast array of industries has dramatically changed the way companies deliver services to their customers. More importantly, this literature compared the traditional marketing strategies and social media marketing in automobile industry by providing an example business success of automobile car in River State. This literature not only has a theory foundation for my study on automobile companies' digital marketing plan, but also provides a practical example of this Internet business mode.