

The China Southern Airlines and its e-commerce -- based on the survey of Shantou branch

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Abstract: *The purpose of this paper is to investigate China Southern Airlines' online passenger service in the context of e-commerce. To get more information, I held a face to face interview with the party secretary from Marketing department of Shantou branch, Chen Yiyang. By analyzing its several main content of e-commerce, which are its B2C ticket sales, B2B operations in e-commerce, procedures, personalization, cooperation with tourism, protecting the customers' privacy and its feedback to users, I provides China Southern Airlines with some suggestions on optimizing its products, channels and promotion strategy such as to advance the construction of online direct selling platform and control intermediaries.*

Key words: *China Southern Airlines, e-commerce.*

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I. INTRODUCTION

The dramatic effect on business operations has been brought by information technology and the Internet (DeLone and McLean, 2014). China Southern Airlines has started its e-commerce operation and established an official website in 2000. In 2014, China Southern Airlines took the lead in setting up the E-Commerce Department to co-ordinate the company's e-commerce platform and innovative e-commerce product development. Until now, the online service system of China Southern Airlines has been promoted a lot. As the biggest enterprise in airlines industry in China with more than 2.98 billion Chinese yuan net income in 2018, China Southern Airlines could be a good example to reflect the improvement level of e-commerce in the whole airlines industry. To find out the main content of e-commerce of China Southern Airlines and understand how it is worked, and also considering the availability of information, I choose to visit China Southern Airlines Shantou Branch and held an interview with them.

Shantou Airlines set up in 1993 and provides service to the whole east area of Guangdong province. Since it has no independent official website or App, this branch is using the same system as other branches of China Southern Airlines. This makes my survey to be more meaningful to both Shantou Airlines and the entire China Southern Airlines.

II. RESEARCH REVIEW

The online business has been brought to different kind of industries. In the industry of airlines, its major effect is on the ticket sales. As a result, many prior researches focus on the tickets selling. As Harison and Boonstra (2008) stated, lots of airlines are attempting to stimulate customers to shift from traditional distribution channels to online tickets selling channels. However, the conflict not only exist between virtual and physical channels (Shone, Chen and Chang, 2003), but also between the airline direct selling and agent distribution (Chang, etc., 2016). Therefore, the e-commerce can bring not only benefits, but also conflicts which need the enterprises to deal with. So, how airline companies use e-commerce effectively and correctly is directly related to the operation status of the entire company (Wang, etc., 2019) without mention the e-commerce also has influence on the privacy, personalization and so on.

So how does China Southern Airlines do in the e-commerce? According to the research of Wang, etc. (2019), the e-commerce is one of the keys to keep this company having the greatest number of passengers in China over 20 years. Also, it provides value to customers by providing more convenient service such as the mobile electronic boarding pass since 2009. However, they did not state more details of how China Southern Airlines using the online channel to create satisfaction to customers. Also, like other essays about airlines e-commerce, there is little mention on B2B, personalization and privacy and other aspects besides ticket sales. The employment of e-commerce can be actually more comprehensive for China Southern Airlines. Based on this, I attempt to complete the research of airline e-commerce from a comprehensive perspective by understanding the e-commerce of China Southern Airlines.

III. BACKGROUND OF CHINA SOUTHERN AIRLINES

China Southern Airlines is the airline with the largest annual passenger traffic and the most developed route network in China. By the end of 2018, China Southern Airlines has operated 840 passenger and cargo transport aircraft, with passenger traffic of nearly 140 million passengers.¹ The main advantage of China Southern Airlines is its rich flight resources. This is not only the foundation of its future development of the market laid the foundation, but also confer a great bargaining power in the south area of China to get greater discounts on fuel, airport rentals, etc. (Wang, etc., 2019)

China Southern Airlines is a kind of click-and-mortar organization, with both online and physical service. Its business scope includes providing domestic and international air passenger, cargo, postal, baggage transportation services; providing general aviation services and so on. This survey focuses on China Southern Airline's online passenger services. In 2018, the company's revenue was 143.62 billion Chinese yuan, with an increase of 2.95% compared with the previous year. Most of the operating income comes from the air transport business. Transportation revenue accounted for 96.13% of operating income in 2018. And from those transportation revenues, 92.74% were passenger revenue and 7.26% were freight and postal revenue.

IV. E-COMMERCE OF CHINA SOUTHERN AIRLINES

4.1 B2C ticket sales

The B2C ticket sales is the most important part of its e-commerce since the premise of airlines to achieve passenger revenue is to smoothly transfer the tickets to passengers. And selling tickets on the web is a cheaper distribution channel than the standard computer reservation systems (CRSs) (Jarach, 2002). Therefore, building a smooth and efficient marketing channel has become the focus of airline passenger sales. China Southern Airlines' ticket sales channels are divided into two categories,

Direct selling is directly selling tickets to customers through their own sales counters, official websites, mobile or telephones. There are three modes of China Southern Airlines' direct selling channel, one is the traditional face-to-face transaction mode, such as the airline's own physical ticket counter. The second is the airline call center mode, which mainly completes ticket sales by phone calls. And the third is the e-commerce mode, which sells tickets on the Internet through airline official website and mobile APP like the most popular social App in China, WeChat.

Selling by agents are selling tickets to its partners such as traditional agents and travel agencies which resell tickets to consumers. The partners are mainly traditional agents, OTA (online travel agency) and TMC (Travel management company). In recent years, OTA, represented by Xiecheng, Feizhu, Qunaer has strong advantages such as strong channel penetration, concentrated promotion policies, product selection, and large customer. Therefore, OTA is the main partners of China Southern Airlines

At the end of 2015, China's State-owned Assets Supervision and Administration Commission (SASAC) issued a document requesting the three major airlines includes China Southern Airlines to work hard to "raising direct sales and reducing sales by agents" and increase the proportion of direct air tickets to 50% within three years.

With the maturity and popularity of e-commerce in the civil aviation field, the popularity of smart phones and the launch of various applications. The development of mobile internet technology has made airlines more diversified in approaching and interacting with customers. Besides, it is possible for airlines to develop direct sales at a faster rate, lower cost and more ways. Also, with the continuous customer complaints about ticket agents in recent years, it is necessary to strengthen the management and control of agents. Therefore, the implementation of "raising direct sales and reducing sales by agents" has become an inevitable trend of airline passenger transportation marketing.

The proportion of direct sales of China Southern Airlines has reached 50% in 2018, meeting the requirements of the SASAC. According to the party secretary of marketing department of China Southern Airlines Shantou Branch, for China Southern Airlines, it doesn't matter whether the cat is black or white, as long as it catches mice. The purpose of all the selling channels is to sell more tickets and offer good customer service.

For direct selling, its first advantages are to reduce agent commission expenses and so reduce overall sales costs. Secondly, it helps airlines directly grasp terminal customer data such as customer travel habits and consumption habits, which makes it possible for airlines to analyze customer data and improve customer service.

For selling by agents, the first advantage is great influence and with huge customer resources. Another advantage is that it covers a wide range of airlines information and the ticket prices can be compared.

Both sales channels have their own advantages and disadvantages. China Southern Airlines will continue to raise direct sale for reducing the cost and understand customer behavior and continue to cooperate

¹1. The official website of China Southern Airlines. <https://www.csair.com/cn/about/gongsijianjie/>

with influential agents,OTA. It will not deliberately reduce the agents unless the agent provides poor customer service. Therefore, For China Southern Airlines, the two sales channels are not competing but win-win cooperation; it still needs to optimize the combination of "direct selling" and "selling by agents"

4.2 B2B operations in e-commerce

The B2B operations of China Southern Airlines online includes the business travel service program, the ticket sales to business and other cooperation with organizations.

Firstly, China Southern Airlines major customer travel system B2B is a business travel platform for enterprise customers, which realizes the self-service ticket sales of enterprise customers and provides a complete set of enterprise travel implementation scheme. According to the customer's main consumption place and ticket consumption amount, it can be divided into three types of customer cooperation: regional big customer, national big customer, global big customer.

Secondly, the online ticket sales channels of B2B is similar with the channels of B2C, which mostly divided into selling directly and selling by agency. And the differences are the number of customers that are usually in form of a business or a group, and more discount.

Thirdly, there are two main modes of business travel service of China Southern Airlines: bilateral cooperation and tripartite cooperation. Two-party cooperative major customers, also known as direct sales customers, refers to the direct signing of sales agreements between China Southern Airlines and major customers, and the direct provision of services. Its manifestation is the cooperation between the two sides. Three parties to cooperate with major customers, refers to the China Southern Airlines, commercial travel service providers and major customers to sign a tripartite ticket purchase service cooperation agreement, by China Southern Airlines and business travel service providers to provide travel services. China Southern Airlines usually provides air tickets, airports and air and other aviation core services, business travel service providers to provide hotel reservations, advance tickets and travel management and other integrated services. Its manifestation is "tripartite agreement tripartite cooperation".

4.3 Procedures

The basic procedures of travel services are login, travel applications, travel activities, claims, points exchange, data statistics. The default service flow of the system is: employee login, selection of flight, selection of passengers, payment, completion. Customers can customize the number, category and permissions of logins according to their own travel management needs. After the enterprise travel administrator or the China Southern Airlines account manager imports the customer list or the customer solicitor, the customer does not need to provide all kinds of information when using B2G to buy the ticket.

The major customer travel system only provides the simplest functions normally, including booking, reporting, department and employee management, account role permission setting and so on. Regarding other functions of the travel system, the account manager opens the corresponding functions according to the enterprise customer rating. For example, the examination and approval function: the ticket exceeding the standard or the ticket paid by the monthly payment or all tickets are approved and approved before the ticket can be successfully purchased. It can realize cost control for enterprises.

China Southern Airlines provides one-on-one customized planning for all major customers to meet the travel needs of different enterprises. At the same time, it also provides a variety of reward return models, such as ticket discounts, mileage and cash, as well as special customer service lines, special car pick-up planes. Baggage priority check-in, customer appreciation activities, travel analysis reports, regular travel analysis and related recommendations and other value-added and extended services to create a better user experience and increase user stickiness.

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China Southern Airlines has launched a new CDP-B2G travel direct sales system. Through WeChat App, customers do not need to install the client and can directly carry out internal travel approval, ticket reservation, ticket refund operation, and support bank cards, Alipay and monthly payment methods to pay for the ticket. Travel approval, ticket inquiry and reservation, settlement and travel report analysis are completed on the mobile phone immediately, which reduces the trouble of traditional manual verification information and saves the labor cost of customers. In the future, China Southern Airlines will also introduce new electronic payment methods to meet the needs of customers for safe and convenience.

4.4 Personalization

E-commerce and mass personalization emerge recently as a popular style of manufacturing (Zhang and Jiao, 2006). Personalization refers to the matching of services, products, and advertising content with individuals and their preferences. E-commerce can help airlines provide products and services to match different consumers' demand based on user information. With the development of the Internet, the online layout of the aviation industry has also begun to accelerate recently, including online direct sales of airlines and OTA platform, the scale is gradually expanding, which makes the price of aviation services more transparent. In addition, the demand differentiation of consumers is becoming more and more obvious, and people pay more and more attention to the requirements of the type and quality of services. Therefore, to avoid homogenization of products and services, attract and retain users, and improve brand loyalty, Personalized marketing has become a new tool for airlines to generate revenue.

The personalized marketing of airlines can be divided into the following modules: customer portrait and feature definition, customer segmentation, definition of products and generation of recommendations, establishment of contact and accurate marketing, interactive communication, analysis and optimization.

First, customer portraits and feature definitions are based on user information collection. When each user logs on to the ticket purchase platform, he or she needs to write and fill in his or her basic information, and then their browsing content will be recorded. China Southern Airlines will integrate this information and define each customer based on the basic information of these users. For example, someone is a 20-year-old female college student from Shantou who often logs on to the ticket platform to search for tickets between Guangzhou and Shantou before the beginning and end of the holiday. Unlike traditional offline sales channels, digital e-commerce platforms enable airlines to understand the customers' information and needs before they arrive at the airport or consume.

Next, airlines will subdivide customers based on customer portraits and characteristics. As mentioned in our interview, according to big data's analysis, China Southern Airlines will divide its customers into different groups, such as business users, high-end users, frequent passengers, potential users and so on. According to the needs of different customer groups, China Southern Airlines will develop matching products and services, such as membership discount services for frequent passengers, including mileage exchange, booking meals, etc., and customized itinerary services for high-end customers. China Southern Airlines designs these services into different sections, showing them to all users on e-commerce platforms, self-direct marketing channels and OTA, and establishing contacts with customers. At the same time, the airline department will also send recommended products and services to different customers through email, SMS, App message reminders, social platform interaction and other channels to achieve accurate marketing.

In addition, interactive communication with customers is also an important link in personalized marketing. According to customer activities and feedback, airlines can further understand the specific needs of customers and user experience, and design and develop a more appropriate service plan to meet the needs of customers. For example: in the cooperation between China Southern Airlines and Shantou University "Snow Leopard" outdoor activities team, China Southern Airlines will follow up the activity planning of "Snow Leopard" in time and customize the travel service for them according to the characteristics and needs of outdoor activities. Finally, analysis and optimization is the key step to realize the closed loop of personalized marketing. Data analysis is carried out on the effectiveness of personalized products and services, user experience, changes in user structure and requirements. Only by further optimizing the product and service flow, matching the current needs of consumers and fine services, airlines can achieve long-term and effective personalized marketing.

In personalized marketing, China Southern Airlines has made a lot of efforts. In 2014, China Southern Airlines launched China's first App about airlines to establish a new channel for direct communication with customers, and integrate multiple resources to launch a personalized travel route, the Global Experience Hall, providing additional services such as accommodation, transportation, scenic spot tickets and so on. In addition, booking meals, multiple seats per person, automatic ticket, e-ticket, reservation and other innovative basic services have brought more convenient and comfortable experience for passengers.

As the largest annual passenger carrier in China, China Southern Airlines has accumulated the huge user information, which provides them with basic support to capture the needs of users. But at the same time, privacy protection has a significant impact on trust in e-commerce (Suh and Han, 2014), it is very important for China Southern Airlines to protect personal information perfectly. I will talk about it later. Besides, having lots of users' data, how to effectively use them and transform them into value to users themselves could be a problem that China Southern Airlines needs to solve.

4.5 Cooperation with Tourism (Composite Products)

In the field of cooperation with tourism organizations, the China Southern Airlines choose travel and tourism services online as its business model. Air transport and tourism are highly relevant because most of the

seats provided by airlines are for passengers to travel. Nowadays, more and more passengers are generally well educated, have rich experience in tourism, and have requirements for customized products. This new trend requires airlines to pay more attention to market segmentation and design more online products for the consumers.

China Southern Airlines has deep cooperation with the Internet, joining the project of " Integrated Transportation and Travel Big Data Open Cloud Platform ". Nowadays, when you open the mobile client of China Southern Airlines, you can get all the services provided by conventional travel agencies, from general information to booking and purchasing tickets, from accommodation, transportation to entertainment, and complete a "fingertip trip".

With the growth of customers' travel demands, China Southern Airlines has created customer demand-oriented travel products, provided customers with valuable products and services, and effective travel solutions. This product offers a combination of air ticket, tourism, catering, hotel and service, and recommends vacation from Sanya, Fuguo island, Yunnan, Changlong, Meizhou and other destinations to improve customers' service experience. Travelers can freely arrange air tickets, hotels, attractions tickets, transportation and other packaging according to their preferences and needs, and the price is more affordable than booking air tickets alone.

For the tourism, both the official website and APP have a bundle package for air tickets, hotels and attractions. The tourism of China Southern Airlines is not a full-time tourism, but a cooperation with many hotels to bundle the most affordable air tickets and hotel prices. China Southern Airlines solves the two most important problems of customer, namely travel and accommodation, and the rest are decided by customers themselves. This pattern of free trip will also become more and more popular.

Besides, the China Southern Airlines is one of the airlines with the largest number of planes and passengers and the busiest route network. It has 15 branches and 5 holding subsidiaries in China, and has many overseas offices in Singapore, Tokyo, Seoul and Amsterdam. I will give 3 examples to justify the corporation with tourism: the Australian Tourist Administration, Chengdu Tourism Administration and Guizhou Tourism Development Committee. China Southern Airlines has reached an agreement with the Australian Tourist Administration to jointly promote the further opening of the Australian tourism market to Chinese tourists and promote more Chinese consumers to travel to Australia by taking flights of China Southern Airlines. China Southern Airlines and Australian Tourist Administration will jointly promote airline products, mainly support a series of promotion projects and enhance the market influence of China Southern Airlines and Australian Tourist Administration. When it comes to Chengdu Tourism Administration, "South navigation - Sichuan tour" is launched by China Southern Airlines and Chengdu International Travel Service Company with the support of Chengdu Tourism Administration, in order to provide convenient and efficient service such as business travel, leisure vacation and conference activities. Last but not least, China Southern Airlines and Guizhou Tourism Development Committee signed the agreement, jointly launching a destination to use its route network and overseas tourist resources to integrate resources such as flights, hotels, scenic spots, in order to meet the needs of "passengers + tourist destination" product, providing free travel and custom tour travel in a variety of ways, to attract more foreign tourists to come to Guizhou and appreciate the beautiful scenery and feel the unique cultural.

China Southern Airlines has won the TTG travel award for many times and was awarded as "Best Business Class Airline in China". It also won the title of "Best Airline in China" in the 14th TTG travel award held by the travel trade gazette. It won the award for its strong transportation service network, high-quality brand service, high-level marketing team and flexible agent policy, which have a broader and stronger influence on people in the tourism industry.

4.6 Privacy

Privacy is the right to be alone and to be free from unreasonable interference by others. In the airline industry, the main privacy issue is the spilling of passenger itineraries. For example, in 2018, Bao'an district of Shenzhen city revealed that the staff of an aviation service company enlarged and rented the authorized account for profit, revealing nearly 5 million pieces of user information. There is even an online business selling celebrity itineraries.

Privacy is a thorny issue for the airline industry. Regarding user privacy, measures taken by China Southern Airlines in app and business operation mainly include privacy notice, app permissions, cookie policy, SSL encryption technology, GDPR and Shield sensitive information.

Privacy notice: There is a clear privacy notice on the app, explaining to customers how they collect and use personal information and how customers exercise their privacy rights.

App permissions: The permissions requested by the app are only location and storage for better service for users, which are less than most apps. Therefore, the privacy of users' information inside mobile phone is well respected.

Cookie policy: Cookies are small data files placed on computer or mobile device when users visit the website. Many consumer advocates, policy makers, and even marketers themselves criticize cookie as a potential threat to consumer privacy (Miyazaki, 2008). For that, cookies of China Southern Airlines can be accepted or rejected by users which includes both the cookies of the first party (China Southern Airlines) and the cookies of the third party.

SSL encryption technology: SSL is a security confidentiality protocol proposed by Netscape, which constructs a secure channel between browser and Web server for data transmission and is suitable for the encryption of commercial information. SSL encrypts the message at the sending end and decrypts it at the receiving end, making the transmitted data less vulnerable to interception by hackers.

GDPR: General Data Protection Regulation is a new regulation set by the European Union for enterprises to protect the data privacy. It aims to strengthen the protection of the personal data privacy of all EU citizens and reshape the management mode of the whole region in the storage and processing of private data. The rules are the "strictest" data privacy laws in history, imposing fines of up to 20 million euros, or 4 percent of global turnover, on companies that break the rules. Since May 25, 2018, China Southern Airlines launched GDPR to improve user privacy protection standards. The launch scope of GDPR also includes relevant businesses of China Southern Airlines on the third-party platform.

Shield sensitive information: In the interface of order, sensitive personal information (such as id number) will be partially shielded to avoid information leakage caused by peeping screen.

4.7 Feedback

Since the time of Web 2.0, there is a greater collaboration between Internet users and enterprises, to China Southern Airlines and its customers.

Table 1. feedback methods

Feedback way	Specific channel
Feedback website	Official website
	App
Electronic questionnaires	Searching engine
	QR code
	Specialized questionnaire network
Others	Mini program of WeChat
	Weibo
	E-mail

Both on the app and their official website, there is an entrance for user feedback. By selecting the type of feedback: Suggestions, praises and complaints, users can give online feedback on various services of China Southern Airlines, including air ticket sales, ground service, cabin service, membership service and others. It is worth mentioning that the feedback page of China Southern Airlines has set up handling channels: official website/app, travel website, telephone customer service, sales agent and others. In this way, they can not only find out which portal has a problem, but also reflect the preference of users for different channels to some extent.

Unlike other user feedback, China Southern Airlines has a praise option. This is related to the incentive system within the company. After a service is praised, once it is confirmed, relevant employees would receive rewards or promotion opportunities. To accomplish the feedback, it requires customers to submit basic information, including name, phone number and email address. That means China Southern Airlines doesn't accept anonymous feedback, and it forces users to leave private information, such as phone numbers, otherwise, the user cannot submit their feedback. So, it may tackle users to successfully give suggestions although it can filter some useless information. At the same time, for some customers who do not have email, feedback cannot be completed too.

In addition to passively waiting for customers to provide feedback and Suggestions, China Southern Airlines is also using the Internet to actively collect customer satisfaction and demand. For example, I found two questionnaires issued by China Southern Airlines that respectively for customer service advice and satisfaction and for digital services in a bigger range. They usually ask for some customers' basic information, as well as their preferences and reasons for choosing an online portal, especially their opinions on the official website. Through electronic questionnaires, information can be collected quickly, and the cost is lower than traditional paper questionnaires. On the other hand, it also solves the problems existing in customers but not necessarily feedback to the enterprise, and actively seeks for the deficiency of customer service quality to improve service quality. In a traditional business environment, it is often difficult to collect user feedback as the cost of market research is high, and telephone feedback can increase the pressure on manual customer service.

Using e-commerce to allow users to give feedback online is a very common practice. It has low cost, do not need special customer service reception; It allows users to give feedback 24 hours a day from anywhere

with a network; It is convenient and quick, and not as troublesome as traditional market research. By using feedback data, the enterprise can find their own shortages and improve their quality of services and products to create more satisfaction of customers at a given direction.

Also, it provides some other feedback channels, such as WeChat mini program, Weibo official account, 24-hour customer service hotline, online manual customer service and so on. As these channels are normally more applied in interaction. So, we will discuss this in the next part.

4.8 Social networks and Interaction

Besides the feedback system, there are also direct tunnels provided to customers to interact directly to the company which includes taking advantage of some social platforms. Boyd and Ellison (2007) indicated that to connect individuals is one function of social network. And this function can also be used to connect firms and customers.

China Southern Airlines provides 24/7 online customer service, which can be accessed through APP and official website, etc. Like most companies today, to reduce employee stress, the customer service system is equipped with intelligent robots named *CaiXiaoPang* to answer basic questions. Only when the user chooses to enter the staff service, it enters the artificial channel to queue. When entering the staff service, users need to choose the type of consultation to access to the corresponding professional staff. Furthermore, the entrance of staff service is small and difficult to find. Also, in our group's test, the human service of China Southern Airlines has a long queue time which is also one of its drawbacks.

As one of the largest social platforms in China, Microblog provides a third-party platform to connect companies and users. China Southern Airlines do make good use of the platform although it seems to have too many official accounts: several official accounts in different name but has less difference in functions, user service centers and branch accounts. Comments on Microblog were mostly no tongue-in-cheek and critical. The social environment and atmosphere are friendly and harmonious.

In numerous official websites, perhaps because of different management reasons, there are some accounts do better. For example, the Shenzhen branch not only timely announced the information of flight delay and cancellation, but also actively interacted with users through thumb up, reply, and retweet users' microblogs related to China Southern Airlines. In holidays and special days (such as solar terms), relevant micro blog will be released to make China Southern Airlines more approachable and closer to users. The Shantou branch that we investigate also has official website. Its name is closer to the people: Chaoshan home. Like Shenzhen branch, it tries to cater to consumers and promotes Chaoshan culture to promote tourism. Of course, its visit is smaller than Shenzhen, so the interaction is also in a relatively small amount.

In addition, the southern airlines account will also release some lottery activities to increase interaction with users. In fact, sweepstakes are by far the most efficient way to interact. Companies can reap a lot of attention and interaction without much cost. For China southern, the prizes include not only air tickets, but also products in cooperation with some enterprises. On May 16, 2019, for example, 10 packs of soymilk from Vitasoy coffee were given as gifts.

In general, Microblog is more like a platform for building better customer relationships with users. Here, you can only comment if you follow it. That means it's more like a portal for fans. You rarely see complaints and criticism in the comments, most of which are conversations about an event or a special holiday. Therefore, microblog cannot be used to solve practical problems, but is more entertaining. Of course, it also plays a role in improving user satisfaction. So, China Southern Airlines still has room for improvement on the microblog platform by reducing useless accounts and pay more attention to solve practical problems.

V. CONCLUSION AND SUGGESTIONS

In summary, we've known the implications of e-commerce of China Southern Airlines from tickets retailing to B2B, travelling, customization, interaction and privacy. There are some suggestions for the China Southern Airlines in from different perspectives according to analyses.

1. Advance the construction of online direct selling platform. To consider more about users' feelings based on the travel needs by launching useful functions such online and simplifying some common operation procedures such as seat selection which make users experience the convenience of official channels. Then the utilize word of mouth marketing helps to attract and accumulate customers.

2. Control intermediaries, instead of decreasing sales by agents. By combination of direct sales and agency model, different channels can serve their customers well and create different added value.

3. Improve the interaction on the microblog platform by reducing useless accounts and pay more attention to solve practical problems. And it can advance its interaction in Tik Tok app, which is developing fast at present.

4. To cooperate with more tourism service agents as intermediaries to bring more convenient and satisfactory services to passengers.

5. Increase the number of app downloads and users' usage. For example, provide new users' coupons or rewarded for inviting friends.

6. Increase the benefits of Mingzhu members, such as continue to increase the mileage reward, making mileage more and more "currency", to attract users to register Mingzhu members and increase the use of official channels.

At last, the limitations exist in both my survey of Shantou branch and this paper. As only experts know details about security and privacy of China Southern Airlines, we did not ask too much about them, also on account to inconvenience to ask this sensitive information. And we only asked one manager, so we might get some mislead information due to misunderstanding or error of transmit. And the information we get can also be a little subjective. Also, we did not make advanced predictions and preparations for the possible situations of the interviews. As a result, when the interviewee misunderstood one of the questions during the interview, we did not explain and adjust the questions accordingly, so we missed some information. Due to geographical limitation, our visit was conducted with Shantou China Southern Airlines branch only, and the interview materials were mostly based on local conditions, which had limitations for analyzing the whole e-commerce business of China Southern Airlines. For example, it has no commerce of international travelling so we could not gather any information from the manager.

BIBLIOGRAPHY

- [1]. Anthony D. Miyazaki. (2008). Online Privacy and the Disclosure of Cookie Use: Effects on Consumer Trust and Anticipated Patronage. *Journal of Public Policy & Marketing*, 27(1), 19-33, from <https://doi.org/10.1509/jppm.27.1.19>
- [2]. Bomil Suh & Ingoo Han. (2003). The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce. *International Journal of Electronic Commerce*, 7(3), 135-161, from <https://doi.org/10.1080/10864415.2003.11044270>
- [3]. Danah m. boyd, Nicole B. Ellison. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230, from <https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- [4]. David Jarach. (2002). The digitalisation of market relationships in the airline business: the impact and prospects of e-business. *Journal of Air Transport Management*, 8(2), 115-120, from [https://doi.org/10.1016/S0969-6997\(01\)00039-4](https://doi.org/10.1016/S0969-6997(01)00039-4)
- [5]. Elad Harison & Albert Boonstra. (2008). Reaching new altitudes in e-commerce: Assessing the performance of airline websites. *Journal of Air Transport Management*, 14(2), 92-98, from <https://doi.org/10.1016/j.jairtraman.2008.02.002>
- [6]. Ke Wang, Ting-Ting Zhang, Meng Shang, Zhen-Zhen Jia. (2019). Research on the Application of E-commerce in modern Airline Operation management -- Taking China Southern Airlines as an example. *Technology and Economic Guide*, 27(23), 209-210, from <http://kns.cnki.net/kcms/detail/detail.aspx?FileName=JJKJ201923165&DbName=CJFQ2019> (In Chinese).
- [7]. William H. DeLone & Ephraim R. McLean. (2004). Measuring e-Commerce Success: Applying the DeLone & McLean Information Systems Success Model. *International Journal of Electronic Commerce*, 9(1), 31-47, from <https://doi.org/10.1080/10864415.2004.11044317>
- [8]. Yi-Yang Zhang, Jian-Xin (Roger) Jiao. (2007). An associative classification-based recommendation system for personalization in B2C e-commerce applications. *Expert Systems with Applications*, 33(2), 357-367, from <https://doi.org/10.1016/j.eswa.2006.05.005>
- [9]. Zheng Chang, Xin Yu, Wen Jiang, Hua Zhao, Yan Hu. (2016). Reflections on the issue of 'raising direct sales and reducing sales by agents' in airlines. *Civil Aviation Management*, 2016(02), 29-34, from <http://kns.cnki.net/kcms/detail/detail.aspx?FileName=MHGL201602007&DbName=CJFQ2016> (In Chinese).
- [10]. Zheng-Yi Shon, Fang-Yuan Chen, Yu-Hern Chang. (2003). Airline e-commerce: the revolution in ticketing channels. *Journal of Air Transport Management*, 9(5), 325-331, from [https://doi.org/10.1016/S0969-6997\(03\)00040-1](https://doi.org/10.1016/S0969-6997(03)00040-1)

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