Business model transformation of full-service airlines: ancillary opportunity

Angelina Ledovskaya[1], and **Andrey Zyatchin**[2]
Affiliations: [2]Department of Operations Management,
Graduate School of Management, St. Petersburg University
Postal address: Andrey Zyatchin, Volkhovsky Per. 3, St. Petersburg, 199004, Russia
E-mail addresses: [1]angledovskaya@gmail.com, [2]zyatchin@gsom.spbu.ru
Phone number: +7 (812) 323 8456

Abstract:
This research contributes to the holistic understanding of what factors should be taken into special consideration when making decisions regarding the development of ancillary revenue opportunities in Russian market from the position of consumers, since they are the end users of services and directly affect the growth of these revenues. In addition, the work helps to understand the key areas for applying innovations and technologies and the subsequent transformation of operating models in this case.
Keywords: *Airlines, transformation, business model, ancillary products and services, UTAUT2*

1. Introduction

Airline industry is one of the biggest economic sectors in the world – more that 5% of global GDP supported by air transport and tourists. Nevertheless, it is a highly competitive environment and comparatively low industry profitability. At the same time, nowadays there are significant changes in the industry: hybridization of business models – "complex phenomenon" that affects both full-service and low-cost carriers – changes already volatile landscape. Catastrophic losses due to COVID-19 pandemic at the beginning of 2020 will shape the industry for the next 5–10 years. All these factors create an opportunity for performance maximization through the use of technology, which recently has become a leading factor in the success of airlines in the hyper-competitive market in conditions of external instability and internal constraints.

Potential solution for these challenges is ancillary revenue development and relevant necessity improving of merchandising capacities. This can add value to the entire customer experience, which is especially relevant for full-service carriers, which drives profitability and customer satisfaction, because customers all over the world positively accept different ancillary). In addition, ancillary products and services are possible during the whole stages of travel journey. Finally, airlines have another strong advantage such as a strong brand and more direct traffic to the websites and other airline platforms, than most other travel companies, since tickets searching and purchasing still are one of the most basic elements in the travel planning.

The purpose of the research is to identify the barriers that prevent passengers of Russian airlines from purchasing ancillary products and services from airline platforms and make recommendations for Russian airline companies. Many studies on ancillary revenue have been conducted on the choice and behavior of both full-service and low-cost airlines, but only a few studies have examined the factors that lead to customers purchasing ancillary products and services and the willingness to pay for them.

At the same time, insufficient attention to the new mathematical models and factors that affect airline customers purchasing intention of ancillary products and services allow us to find a gap in research and expand our understanding of these processes. In addition, previous researches are highly localized and focus predominantly Asian markets, which additionally opens up opportunities for research.

The goal of this research is to identify significant factors that affect the behavioral intention to purchase services through airline platforms.

Object of the study are ancillary products and services development in Russian airline companies. Research subject: reasons for the buyers rarely buy more products and services through the different airline platforms.

2. Methodology

The chosen theoretical framework, the extended unified theory of acceptance and use of technology (UTAUT2) is widely used in modern research and aimed at explaining of the acceptance and use of information and communications technologies specifically by customers. UTAUT2 was built on the basis of combination of previous theories in this field, mainly as an extended version of UTAT, which became extremely popular within the scientific research in the field of information and communications technologies and also was applied in consumer context. Adding additional constructs such as hedonic motivation, price value, and habit it was extended to the application within the consumer context, which is totally feasible in case of this research (Venkatesh, 2012).

However, only chosen above constructs are not fully enough. As a result of the analysis in the first chapter, several factors that can influence the purchase of ancillary products and services through the airline platforms were identified.

Personalization

The first is personalization. In general, personalized offers help passengers customize travel journey and engage passengers in purchasing these additional services. However, the passenger's desire to purchase personalized products and services may differ at different stages of travelling. It was scientifically proved that personalization can influence different aspects of information processing and decision making. It was also found that personalization influence on the perceived ease of use and perceived usefulness, which in turns lead to the increasing the intention of use (Yong, 2017). In this case it is relevant to understand whether perceived level of personalization influence the behavioral intention to purchase ancillary products and services from ancillary platforms. The tested aspects of personalization included in Perceived Personalization section.

Trust

Online shopping is still full of concerns about security and privacy issues. This problem is widely discussed in modern research mostly because of high presence in e-commerce field. In general, it could be considered in term of general perspective and security of the online transactions, which is related to the online operations. Trust may be characterized as an attitude of trust in the online danger situation that one's vulnerabilities are not exposed, consisting of assurances and promises, the unrestricted use of private details, the consistency of reimbursement policies and the risk-free nature of online transactions. This topic is widely discussed in tourism research and used as a construct by several authors. Moreover, it is particularly important for full-service airlines since they have strong image among other travel services providers.

Switching costs

Switching costs are widely used when it is necessary to test intention to purchase and customers change a provider of service and products (Chang et al., 2014). The increase in switching cost will directly influence the switching barriers, that in turn prevent switching and purchase behavior. This is highly relevant for airline companies because of opportunity to create holistic travel system for passengers and huge competition among travel services providers. This is a significant topic since the process of technology adoption and switching intent consists of defining requirements, alternative recognition, contrast, and selection, leading to switching intervention.

Behavioral Intention

Taylor and Todd referred behavioral intention as perceived attitude. According to their study, user intention would affect how often they use technology. Past research also indicated that behavioral intention is a major determinant of use behavior. Raman and Don studied 320 pre-service teachers using learning management software and using UTAUT2 model they found that behavioral intention was influential in determining use behavior. Also, Escobar-Rodríguez and Carvajal-Trujillo reported behavioral intention as a major determinant of use behavior in predicting whether consumers would purchase airline tickets on the Internet.

Age, gender, and travel experience play the role of moderators with subsequent stated hypotheses.

Thus, the main goal of this research is to understand what are the barriers that influence the behavior intention to purchase ancillary products and services directly though the airline platforms. The proposed framework is represented on figure 1.

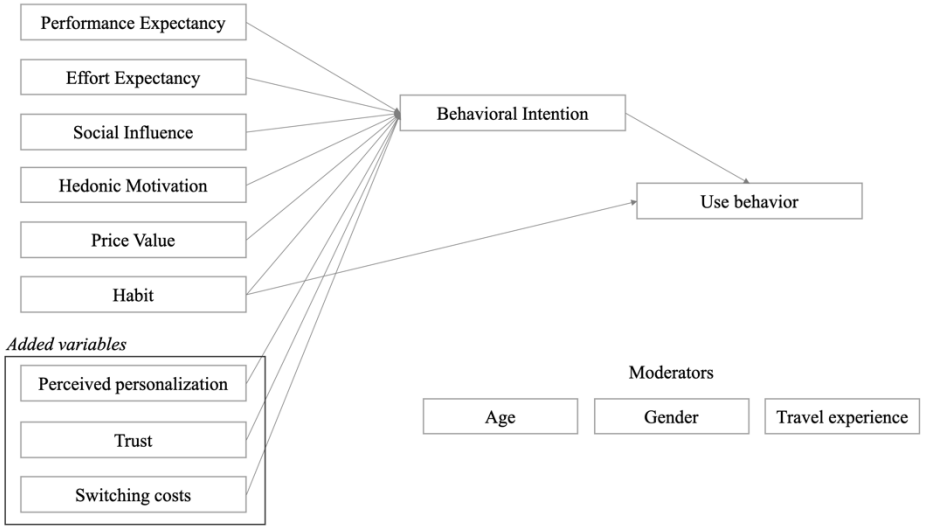

Figure 1. Proposed framework for research
Source: developed by authors

3. Data and sample

The data is collected through a cross-sectional online-based survey, that was distributed through mix of multichannel sources, consists of both frequent and infrequent travelers (around 150-300 respondents).

A set of measurement items was collected through the analysis of previous research in the relevant field of acceptance of information and communication technologies, e-commerce, tourism, and airlines. Thus, the original UTAUT2 theoretical model was adapted to the specific context of this research based of these findings. In this regard, 38 items were obtained within 11 main constructs. Consequently, the performance expectancy consists of 9 items (Venkatesh et al., 2012; Rodríguez, E. Carvajal-Trujillo, 2014; Oliver Wyman, 2016). The effort expectancy, Social Influence, Hedonic Motivation are composed of 3 items each (Venkatesh et al., 2012). Habit consists of 2 items (Venkatesh et al., 2012). Personalization is measured by 4 items (Yong et al., 2017; Wang et al., 2017). Price value consists of 4 items (Venkatesh et al., 2012; Rodríguez, E. Carvajal-Trujillo, 2014). Trust is measured by 4 items (Rodríguez, E. Carvajal-Trujillo, 2014). Switching costs construct is composed of also 4 items (Oliver Wyman, 2016; Chulkov, 2017). Behavioral Intention and Use Behavior are measured by 3 and 1 items, respectively (Venkatesh et al., 2012; Rodríguez, E. Carvajal-Trujillo, 2014). All these constructs were validated for the relevance by 4 industry experts that had relevant work background and participated in projects related to ancillary products and services.

Seven-point Likert scale to collect data on respondents' level of agreement with the measurement items is implemented (1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – neither agree or disagree, 5 – somewhat agree, 6 – agree, 7 – strongly disagree). The using of seven-point Likert scale is proposed by author of the theoretical framework, Venkatesh.

Statistical methods, such as a Confirmatory Factor Analysis based on PLS-SEM method is conducted to understand the type of relationship between transformational changes, technology acceptance, service quality, perceived value, and customer satisfaction. Confirmatory Factor Analysis is conducted to test preconceived theoretical idea about the factor structure and will be run by using WARP PLS 7.0 software.

4. Empirical results and conclusions

This study was conducted to understand the barriers that prevent the purchase of additional products and services. The model can be considered reliable and valid, it is described by 9 factors, that explain 71% of the variation in airline platforms acceptance. Empirical research has shown that several hypotheses have been rejected. However, factors such as perceived performance expectation; perceived price value; perceived level of personalization; and habit when it comes to behavioral intent were considered significant.

In terms of perceived level of personalization and price value there is an opportunity to develop tailored pricing offers, dynamic packaging, displaying the benefits of purchasing on airline platforms and saved money, better integration with loyalty programs. Developing of data analytics practices for better understanding of customers, implementation of AI&ML mechanisms for match customers' demand and wishes also would be helpful. All these actions should be applied by deep engaging passengers into the process of mobile purchasing on all travel stages, even before and after the journey, which potentially can help to develop habits.

This research has its limitations and further researches should take them into account. First, collected sample includes mainly opinions of young population aged from 18 to 35 years old from central regions of Russia. Moreover, the research has shed light on the general acceptance and perception of the ancillary products and services, not evaluate specific streams, such as unbundled products; commission-based products and frequent flyer programs.

References

1. Chang, Y. T., Park, H. S., Jeong, J. B., & Lee, J. W. (2014). Evaluating economic and environmental efficiency of global airlines: A SBM-DEA approach. *Transportation Research Part D: Transport and Environment*, *27*, 46-50.
2. Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. Tourism Management, 43, 70-88.
3. Wang, M., Cho, S., & Denton, T. (2017). The impact of personalization and compatibility with past experience on e-banking usage. International Journal of Bank Marketing.
4. Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS quarterly, 157-178.
5. Yong, X., Jianbin, X., & Yu, B. (2017). A Study on the Factors about Customers' Acceptability to Airline Ancillary Products. Procedia Computer Science, 107, 39-46.
6. Oliver Wyman (2016). The ancillaries challenge in online travel booking. Retrieved from: https://www.oliverwyman.com/content/dam/oliver-wyman/global/en/2016/may/owtl/03-The-Ancillaries-Challenge-in-Online-Travel-Booking.pdf