# Analysis of Digitalization Transformation in AirAsia

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***Abstract:*** Digitalization transformation has been allowing airlines to vastly increase their productivity and profitability, and pioneer airlines have demonstrated a strong interest in applying digitalization to their booking system, membership management, and business operations. It is then necessary to analyze how those technologies can benefit budget airlines and how they can be better facilitated to enhance the competitiveness of the airlines. This paper studies the application of digitalization transformation adopted by budget airline AirAsia and how it influences and impacts its performance financially and operationally. The analysis was conducted to understand how AirAsia has done to transform its business into digitalization, including the aspects of both customers' perspectives and internal operations and its corresponding performance based on those techniques. The result shows that digitalization is necessary and vital to enhancing its profitability, competitiveness, and innovation, and we propose that AirAsia could further utilize digitalization by enhancing the ticketing and booking system, customer experience, and working process.

***Keywords:*** Digitalization, Transformation, AirAsia

## 1.    Introduction

In recent years, the concept of digital transformation has gained significant importance across all sectors. The concept of digitalization transformation means the conversion of analog information and systems into digital formats, facilitating the integration and use of digital technology and instruments [1]. The concept can then be classified by its complex nature, including several essential components such as the digitization of data, automated processes, connection, and the integration of developing technologies like artificial intelligence (AI), cloud computing, and the Internet of Things (IoT). By undergoing this process of transformation, both businesses and people are able to effectively use digital technology to get benefits, resulting in significant enhancements across many fields [1]. There are several benefits to be gained by enterprises and people who choose to adopt this transition, including enhanced efficiency and productivity, greater connection, and an enhanced customer experience. The rapid advancement of technology necessitates the recognition and utilization of the significant potential inherent in digital transformation by individuals, organizations, and governments. By harnessing its advantages, a more interconnected, streamlined, and prosperous future can be shaped [2].

Taneja et al. pointed out that AirAsia has been a leading proponent in the implementation of digital methods aimed at augmenting operational efficiency, fostering consumer engagement, and

facilitating revenue generation [3]. In recent years, AirAsia has employed a significant strategy focusing on the improvement of its web platforms. According to its official website, this includes the creation of a website and mobile application that prioritize user-friendliness, enabling smooth processes for flight reservations, check-in procedures, and tailored travel experiences [4]. In addition, the implementation of digitalization has facilitated the optimization of AirAsia's operational processes, resulting in cost reduction and the establishment of a more tailored and individualized client experience.

The first objective of this paper is to study the possible application of digital transformational methods in the context of AirAsia, with a particular emphasis on the airline's financial performance, strategy, effects, and possible obstacles. Besides, we conduct an analytical study on AirAsia's digital transformation to help airlines understand their digitalization strategies, effects, and challenges. Additionally, we also analyse AirAsia's financial performance to understand its digitization plan and its effects on the company and the aviation industry. Through the analysis, we conclude that AirAsia has effectively improved its operational efficiency, customer experience, and profitability by embracing digital technologies. However, there are also issues related to the integration of systems, ensuring cybersecurity, and the need for upskilling the workforce. Notwithstanding these obstacles, AirAsia exemplifies how enterprises can leverage digitalization to foster innovation and flourish within a progressively competitive environment.

## 2. Digital Transformation for the Client

### 2.1. Enhanced Digital Service

AirAsia acknowledged the need to adjust to the escalating consumer expectations in the digital age. The implementation of a mobile application that prioritizes user-friendliness has simplified the process for customers to make airline bookings, handle reservations, and conveniently access customised travel information, all via the comfort of their cellphones. The implementation of this digital innovation has significantly augmented the ease and accessibility of AirAsia's services, thereby enhancing the overall customer experience. The digitalization process of AirAsia encompasses more than the mere development of a mobile application. The airline has successfully introduced streamlined online booking systems, enabling customers to easily navigate travel choices, choose desired seating arrangements, and securely finalize transactions. In addition, the use of self-check-in kiosks at airports has resulted in a notable reduction in waits and a more efficient check-in procedure, therefore providing customers with time-saving benefits.

### 2.2. The Application of AI and Apps for Customers

AirAsia has used state-of-the-art technology like artificial intelligence (AI) and data analytics. Artificial intelligence (AI) algorithms play a significant role in enhancing the precision of demand forecasts, optimizing pricing strategies, and improving operational efficiency. This allows AirAsia to optimize its services, adapt pricing strategies in response to market dynamics, and provide tailored experiences to specific clientele [5]. In 2022, AirAsia launched a powered chatbot, a much more powerful AVA system to improve the customer experience. It allowed intelligent virtual customer service to answer queries and help the customers proceed with various tasks relating to the journey [6].

The mobile application developed by AirAsia serves as a demonstration of the company's dedication to prioritizing the needs and satisfaction of its customers. The application offers convenient booking choices, real-time flight information, tailored promotional offers, and access to a wide range of supplementary services. AirAsia endeavours to optimize the whole of the travel process, ensuring a seamless and trouble-free encounter for its clientele, consequently fostering consumer

loyalty and advocacy. Moreover, AirAsia has been at the forefront of implementing the innovative "AirAsia Super App" model, which seamlessly combines many services like flight reservations, hotel bookings, food delivery, and ride-hailing under a unified and user-centric interface. This not only expands AirAsia's sources of income but also enables it to provide a comprehensive travel experience to its clientele.

By using client data and employing AI analytics, AirAsia has the capability to provide customized services, personalized suggestions, and timely notifications in order to augment consumer contentment. AirAsia uses its powerful app to achieve a sophisticated digitisation process. For instance, if an individual starts the application during the early hours, the displayed message suggests the possibility of availing a transportation service from their place of residence to their workplace [6]. In the event that users use the application during the nighttime hours, they will be presented with a message urging them to promptly request a trip in order to pre-emptively circumvent traffic congestion. Alternatively, in the event that users use the application on a day when they have a scheduled flight, they may see a prompt inquiring, "Would you like to proceed with reserving your transportation to the airport at this time?"

In addition, digital technologies have the potential to enhance the efficiency of booking and ticketing procedures, hence increasing convenience and accessibility for consumers. The integration of mobile apps has facilitated convenient check-in processes, immediate flight updates, and tailored trip suggestions, therefore greatly augmenting the entire travel experience for clients. For example, several airlines have adopted the technology of fingerprint and facial recognition for ticket booking and check-in processes, which will vastly reduce waiting time and staff costs [7].

## 2.3. The Application of AR and VR Technologies

The AR and VR technology can be well equipped in the aviation industry to boost the experience of passengers during the journey [8]. In 2015, Qantas became the pioneering airline to provide virtual reality (VR) entertainment for passengers in its first-class cabins on certain A380 flights [8]. In 2016, Qantas Airlines launched a virtual reality (VR) application that could be downloaded on both IOS and Android smartphones. AirAsia quickly adopted those applications and started to lead that technology instalment in their equipment. The primary objective of this program was to provide prospective travellers with the opportunity to virtually tour their desired location, namely Australia, before their actual arrival [8]. It was understandable that those edgy technologies may be costly to equip on a budget airline, but now, those technologies are getting affordable and mature and can be used in a much wider field.

## 3. Digital Transformation for the Internal Operation

## 3.1. Optimizing of Working Process

The optimization of processes is a significant area in which digitization has the potential to change AirAsia's operations. AirAsia uses data analytics and machine learning algorithms to effectively evaluate extensive operational data, enabling the identification of trends and bottlenecks, and the facilitation of data-driven decision-making processes. Predictive maintenance algorithms have the potential to mitigate aircraft downtime by proactively detecting maintenance needs, hence enhancing operational efficiency and generating cost reductions. The importance of digital technology in enhancing the efficiency of their operating procedures should then be acknowledged. AirAsia also uses sophisticated analytics and Internet of Things (IoT) technologies to establish real-time tracking of aircraft components and equipment, hence facilitating the implementation of predictive maintenance. The use of this approach resulted in a decrease in both operational downtime and

maintenance expenses, while also contributing to heightened safety measures and increased levels of customer satisfaction.

## 3.2. Updated AIRCOM System

AirAsia has made substantial investments in cutting-edge aircraft that are fitted with innovative avionics systems, enabling seamless communication and enhancing operational efficiency [9]. These technological improvements provide the continuous monitoring of flight data in real-time, leading to the optimization of fuel usage and the improvement of overall safety standards [10]. Since 2015, AirAsia has started to deploy SITA OnAir's AIRCOM services, which could provide real-time tracking [11]. The AIRCOM FlightTracker service facilitates the real-time tracking of flights over an airline's full route network. This is achieved by using air traffic control data and the flight plans of the carriers to ensure accurate monitoring of aircraft positions. Automatic notifications are provided in the event that an aircraft deviates from predetermined criteria [12]. According to Mittu Chandilya, the CEO of AirAsia India, the optimization of processes via the reduction of human involvement because of the SITA OnAir's AIRCOM services leads to increased efficiency and simplified operations [11]. Consequently, this facilitates the enhancement of our performance while simultaneously maintaining cost efficiency.

## 3.3. Empowerment of Airline Operation Efficiency

The use of digital technology inside AirAsia has yielded a multitude of operational efficiencies. The use of artificial intelligence algorithms and data analytics has effectively enhanced the allocation of resources, namely in crew scheduling and aircraft maintenance, leading to financial savings and enhanced operational efficiency.

The implementation of digital transformation initiatives by AirAsia has resulted in notable favourable outcomes. First and foremost, the implementation of online platforms has helped the airline establish a robust digital presence, thus leading to the expansion of its client demographic and the augmentation of brand recognition. In addition, the integration of digital technologies has enhanced AirAsia's operational efficiency, leading to decreased expenses and enhanced profitability. The advent of digitalization has brought about a significant transformation in the realm of customer experience. AirAsia has effectively augmented consumer pleasure and loyalty through the implementation of features like as personalized booking recommendations and real-time flight updates. Furthermore, the implementation of digital platforms has enabled the establishment of smooth communication channels between customers and airlines, hence enhancing the effectiveness of problem-solving and fostering enhanced customer relationships.

## 3.4. New Sources of Income

The implementation of digital transformation has enabled AirAsia to strategically enhance its auxiliary services, resulting in the creation of supplementary sources of income. Through the implementation of a customer-centric strategy, the airline successfully discovered many potential domains in which auxiliary services might be used to augment the overall passenger experience and improve financial gains. Illustrative instances include the facilitation of in-flight Wi-Fi access, expedited luggage processing, and tailored travel encounters through digital platforms. These services not only provide financial gains but also play a role in enhancing client happiness and fostering customer loyalty.

AirAsia has expanded its operations into the realm of electronic commerce, using digital platforms to provide clients with a wide array of travel-related goods and services. Through strategic partnerships with many industries, the airline significantly expands its market presence and visibility,

therefore providing consumers with a diverse range of choices to enhance their travel experiences. Through engaging in collaborative endeavors, AirAsia is able to generate additional revenue streams by earning commissions on various services such as hotel reservations, vehicle rentals, and travel insurance. This diversification of revenue sources contributes to the company's overall financial stability.

AirAsia has strategically used the increasing significance of digital platforms to effectively profit from the expansion of digital advertising. Through the strategic use of its web platform, the airline has effectively managed to attract advertising partners, thus resulting in the generation of supplementary income. These strategic alliances enable AirAsia to promote various brands and goods effectively by means of customized marketing campaigns through its website, mobile application, and social media platforms. This particular kind of digital advertising serves as a supplementary source of money for the airline, while also providing partner companies with a broader level of visibility.

## 4.    The Effect of Digitalization on Financial Performance

Operational efficiency has been significantly influenced by digital transformation, hence playing a pivotal role in AirAsia's financial performance. AirAsia has effectively implemented digital technology to enhance operational efficiency through the automation and streamlining of several processes, hence reducing the need for manual intervention and improving the allocation of resources [6]. The application of sophisticated data analytics and machine learning algorithms has notably enhanced the process of maintenance scheduling, leading to a decrease in operational downtime and an augmentation of financial savings. The implementation of these operational improvements has not only resulted in an enhancement of the airline's performance but has also played a significant role in contributing to its better financial status. The income statement showed that although the revenues since 2020 were hit badly due to the pandemic, the other sources of income have demonstrated a significant share of the total revenue. According to the annual report, the ancillary income stood at 78.5 million Ringgits, which took up to 9% of total income.

The advent of digitalization has brought about a significant upheaval in the methods of gaining profit. AirAsia has effectively adopted this paradigm shift by strategically utilizing electronic commerce platforms to broaden its supplementary sources of revenue [6]. The airline has successfully employed digital marketing tactics, such as tailored offers, targeted advertising, and user-friendly booking interfaces, to effectively engage customers and stimulate sales. In addition, the implementation of mobile applications and enhanced internet platforms has conferred AirAsia with a competitive advantage, facilitating an expanded consumer base and bolstering its financial efficacy.

The advent of digitalization has had a profound effect on AirAsia's customer experience, hence exerting a notable influence on its financial success. AirAsia has effectively enhanced the travel experience for its consumers through the utilization of digital technology, including self-service kiosks, mobile check-in, and personalized travel applications. The emphasis on digitalization has not only resulted in heightened levels of customer satisfaction and loyalty but has also facilitated the generation of repeat bookings and word-of-mouth referrals, contributing to the development of revenue and the enhancement of financial performance.

The aviation industry has experienced significant cost efficiency through the implementation of digital transformation. AirAsia has effectively utilized digital platforms to reduce operational costs associated with paper ticketing, manual processing, and physical infrastructure. AirAsia has successfully achieved cost reductions and upheld service quality through the adoption of digital ticketing systems, the implementation of automated baggage handling, and the utilization of cloud-based operations. The implementation of cost reductions has had a favourable influence on the financial performance of the airline, leading to enhanced profitability and sustainability.

## 5.    Suggestions and Discussions

Digital transformation has the potential to significantly improve the operations of budget airlines by enhancing efficiency, minimizing expenses, and increasing the overall customer experience. Nevertheless, as a result of budgetary limitations, it is essential for AirAsia to implement a proactive and innovative strategy in order to accomplish digital transformation effectively. Firstly, Enhancing operational efficiency is a key objective of digital transformation initiatives within the context of a budget airline. This may be accomplished by using many technologies, including artificial intelligence (AI), machine learning (ML), and robotic process automation (RPA). The use of AI-powered algorithms has the potential to enhance the optimization of route planning, staff scheduling, and fuel usage, resulting in significant cost reductions. Moreover, machine learning (ML) may be used to evaluate extensive volumes of data in order to discern patterns, empowering airlines to make choices based on data and enhance their operational processes.

Secondly, the implementation of digital transformation is of paramount importance in augmenting the consumer experience within the context of budget airlines. Airlines can optimize their customer data management, customize marketing strategies, and provide personalized travel suggestions by using customer relationship management (CRM) systems. Furthermore, the integration of mobile apps and online self-service platforms enables passengers to conveniently make airline reservations, complete check-in procedures, get digital boarding cards, and receive timely updates, thus facilitating a streamlined and effective travel encounter.

Thirdly, the use of data analytics and predictive modelling has the potential to provide significant advantages for budget airlines. Airlines may get significant insights into market trends, passenger behaviour, and demand patterns by gathering and analyzing extensive data from diverse touchpoints, such as flight reservations, customer preferences, and website interactions. These insights have the potential to enhance decision-making by providing more comprehensive information, improving methods for revenue management, and providing proactive modifications to effectively respond to dynamic market situations.

Finally, the attainment of digital transformation within the constraints of a restricted budget necessitates the adoption of a malleable and cooperative methodology. AirAsia has the potential to use agile approaches, such as scrum or lean, in order to execute digital projects gradually and promptly adapt to changing client demands. Collaborative alliances with technology suppliers and startups might also assist airlines in obtaining cost-effective access to new technologies. Through engaging in partnerships with key industry players, low-cost airlines have the opportunity to harness the combined knowledge and resources of these entities, therefore facilitating the process of digital transformation while operating within limited budgetary parameters.

## 6.    Conclusion

The integration of digital technology has emerged as an essential component within contemporary companies, driving them towards sustainable expansion and a heightened competitive edge. AirAsia, a prominent player in the aviation sector, has strategically adopted digital transformation as a pivotal approach to revolutionizing its operational framework, augmenting consumer satisfaction, and extending its global outreach. This study analyses two aspects of its digital transformation on business, examines the financial performance of AirAsia to get a better understanding of the company's digitalization goal as well as its implications on the aviation sector as a whole, and provides workable solutions for future consideration. By incorporating digital technology, AirAsia has successfully increased its operational efficiency, customer experience, and profitability, as may be gathered from the previous sentence. However, there are also concerns over the integration of technologies, the maintenance of a secure online environment, and the need to upgrade the skills of the workforce.

Despite these challenges, AirAsia offers a model for how businesses can make use of digitalization to encourage innovation and thrive in a climate that is becoming more competitive.

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