

## Conference Paper

# Collecting the Memories: The Potential of Augmented Reality Souvenirs in Agro-Tourism

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**Abstract**

Souvenirs are an essential artifact in tourism because tourists want to keep a memory of the places they visit. Despite the enormous variation in souvenirs, there are no decent souvenirs for agro-tourism in Indonesia. Agro-tourism allows tourists to experience the natural beauty of landscapes and to be exposed to farming products, making the agricultural products the souvenirs themselves. Some Indonesian agro-tourism provides undifferentiated souvenirs like keychains or T-shirts that exhibit the place's logo, which we perceive as an opportunity to develop a novel design of souvenir. Our previous study about augmented reality products in agro-tourism delivered good outcomes but needs further research. This article explored the potential of developing agro-tourism souvenirs with technology to engage tourist enthusiasm with augmented reality. The researchers conducted literature studies, interviews and product testings to answer the main research question: "What is the tourist attitude towards augmented reality souvenirs in Indonesian agro-tourism?". The findings during the prototype trial indicated that augmented reality souvenirs could escalate tourism experiences. However, we found there was a problem in human-computer interaction: some of the target audience's tools cannot support the technology. Although the immersive sensation from augmented reality souvenirs potentially enhances the tourist experience, future studies about the effectiveness of its more extended implementation are necessary.

**Keywords:** augmented reality souvenir, agro-tourism, souvenir, digital souvenir

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## 1. Introduction

Traveling is a leisure activity of going from one place to another over a distance. This activity could be done in a short time or a long time, as well as the many kinds of transportation to perform it. During the traveling, tourists want to capture memories, so that they can reminisce about the good old days. Back in 1960'-1990's, people bring polaroid and film camera during the holiday to save the precious moment. At

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that time, printed photos are like the only way to remember the past, even though there was a video camera because people could save the printed photo easily and everlasting. Meanwhile, the roll film should be printed out in a photo studio in order to relish the pictures. The complicated steps of printed photos lead Kodak, one of the biggest photography companies based in the United States, to invent the digital camera by its engineer, Steven Sasson, in 1975 [1]. It was fundamental with a large machine. Although Kodak was the digital camera pioneer, they did not develop the technology because Kodak wanted to stay in the analog business. Unfortunately, many other photography companies, such as Fujifilm, takeover Kodak's throne and made headway into the professional market [2]. Since that time, at the beginning of the 2000s, compact digital cameras were fastly growing worldwide. It could save the picture in its "memory," so people do not need to get through a slow process to see the photos.

Shortly after, in the mid-2000, the compact digital camera has been slowly replaced by a smartphone. People prefer to use smartphones to capture a picture because it can connect with social media. The need to be accepted in the digital world change many people's mind. Therefore, smartphones nowadays have become human's primary object. For instance, some destinations have been acknowledged on social media by tourists. It shows the connection between pictures, tools (camera or smartphone), tourist, and tourist attraction. In addition, the tourism experience is also influenced by souvenirs. Souvenirs are an essential part of creating a memorable sensory experience with tourist engagement [3]. Souvenir shopping is considered essential because it will bring revenue source [4] and enhance the destination's attractiveness [4].

Nowadays, the advancement of technology delivered digital souvenirs. The example could be found in some museums, which allow the tourists to take a picture in a special booth while the picture will be delivered personally by email. One digital souvenir study in Greece shows the transformation of a museum App into an e-souvenir to share with family and friends after visits [3]. Also, digital souvenirs could be customized to make them feel more personal. Tsartas argued [5] that sustainable tourism's advance creates the great potential to revive rural areas like agro-tourism. Nevertheless, digitalization in agro-tourism is quite rare. A few vineyards in Spain or France already own a mobile application, but generally, it only contains information about its wine production.

On the other hand, as an agricultural country, Indonesia has several agro-tourism such as rice field tourism in Ubud Bali, tea plantation tourism in Wonosari Malang, and apple farm tour in Batu Malang. Yet, no digital approach toward those destination's souvenirs. In comparison, Agro-tourism's promotion seems outdated than the theme-park-tourism, which shows from the visual communication design. In this article, we explore the

existence of digital souvenirs in agro-tourism. More specifically, we stressed out the potential of Augmented Reality (AR) souvenir in Indonesian agro-tourism.

## 2. Literature Review

### 2.1. Agro-tourism

According to Yang [6], Agro-tourism is a combination of agricultural production and tourism that attracts short-term and long-term tourists to farms or rural areas for enjoyment, education, and/or active engagement in agricultural production and life-long farming practices. Several studies [7], [8] show that the agro-tourism's recreational aspect assemble an important economic boost for many farmers, which prevents them from bankruptcy. This place's attractiveness creates employment opportunities for the people who live nearby or the farmer's family members. Agro-tourism is quite like an outdoor recreation with extra activities such as hospitality (villa or hotel), direct-to-consumer sales (strawberry pick tour, milk production tour, etc.), agricultural education (study tour to a farm), recreation, and entertainment [9]. Regarding agro-tourism, farming businesses can benefit from increased spending, intention to return, and positive word-of-mouth, while tourists receive a personalized, educational, memorable, and interactive experience [10].

Indonesia is well-known as an agricultural country that is likely to cultivate the income of farmers from agro-tourism. The expansion of agro-tourism initiates the farmers to look for an opportunity in technology and social change agents that also plays an active role in empowering society [11]. A previous study in Taman Simalem Resort, Indonesia [12] shows that the collaboration of young minds and conventional farming positively impacts agro-tourism. Researchers have explored the expansion of Augmented Reality in tourism, such as museums [13]–[15] or cultural heritage [14], [16]–[18], which demonstrate few methods. However, the studies about souvenirs in agro-tourism are understudy, especially with the technology approach. Our previous research about Augmented Reality products in agro-tourism shows a good outcome but needs further research [19], [20].

### 2.2. Souvenir Shopping

Souvenir is originally a French name that means “a remembrance of memory.” According to Gordon [21], people like to be reminded of special moments and events in which a

souvenir is able to perform it. A souvenir is a tangible object that has the strength to bring back an extraordinary adventure. Kim and Littrel argued that souvenir shopping's intention depends on the purpose of buying for self or others [22]. Tourists usually purchase gifts for their own personal use and for family and friends during their travels [23]. Gordon [21] also proposed that souvenirs can be categorized into five types: (a) pictorial images (photographs, postcards, etc.), (b) piece-of-the-rock souvenirs (things from a natural environment), (c) symbolic shorthand souvenirs (Eiffel tower's keychain, Balinese fridge magnet, etc.), (d) markers souvenir (having words which locate the place and time like T-shirt), and (e) local product souvenirs (local foods and crafts). The significance of souvenir shopping is often overlooked [24]. On the other hand, our previous research determines how pictorial images such as playing cards could transform into Augmented Reality's marker [20]. The link between tourist souvenir shopping behavior and Augmented Reality technology is still understudied.

### 2.3. Digital Souvenir: Tangible and Intangible Souvenir

Digital souvenirs are individual memories from experience in a tourist destination that care about and love to receive after the tourism activity [25]. According to Petrelli et al. [26], a digital souvenir is to enables visitors to contribute so that it can become a means to collect visitor-generated content. Their work key issue is how to increase the number of people that go online. Moreover, there are two types of objects based on physical and non-physical by touch. The tangible souvenir easily relate to the five types of souvenir by Gordon. Besides, the intangible souvenirs is related to the experience of traveling [27]. The intangible souvenirs could be the sights, sounds, and smells of faraway places. For example, someone could paint their room with French touch after the Paris holiday or teach Italian recipe to a family after a gastronomic tour in Italy. Specifically, an intangible souvenir is a memorable story experience from the tourist.

## 3. Findings

These research methods are divided into three parts, namely, literature review, interviews, and alpha-testing. We use four scholarly search engines like google scholar, Taylor and Francis online, Springer, and Elsevier in the literature review. Our exploration keywords are digital souvenir, agro-tourism souvenir, agro-tourism augmented reality, augmented reality souvenir. We found only several pieces of literature that match our research. During the short studies, we set out to prove our hypothesis

about the Augmented Reality souvenir's potential in agro-tourism by interviewing five tourists in Agrowisata Wonosari, Malang. There were five different persons with different backgrounds, a high school student (TA), a university student (TB), a local tourist (TC), an international tourist (TD), a local souvenir maker (TE). We conducted a short interview then a prototype test to determine the potential of Augmented Reality Souvenir.

The interview result shows that tourists TA, TD, and TE love to buy souvenirs from traveling, especially the symbolic shorthand souvenirs and markers souvenirs. Meanwhile, tourists TB and TC argued that they live in a small house and prefer not to buy souvenirs. Concerning accepting souvenirs from others, all tourists agree to receive and keep the souvenir to respect the person. Even though all of them confessed that sometimes they did not like the visual aesthetics. Moreover, all tourists concurred that digital souvenir with Augmented Reality is a virtuous idea. Nevertheless, some tourists are concerned with the internet connection in the tourist destination and the smartphone's support system. Therefore, we proceed to the prototyping testing. We tested two kinds of digital souvenirs, such as Augmented Reality playing cards and Augmented Reality T-shirts. The result shows that the majority choose to buy the Augmented Reality T-shirts as a souvenir than the Augmented Reality playing cards. The main reason is that they claim T-shirts are a universal souvenir than playing cards, which they assume is fit for children.

Furthermore, we discuss the tangible and intangible objects, and the implication of those term to souvenir. Only tourist TD understand the meaning of the terms because of the English vocabulary, even though he could not relate it to the souvenir. We gave some example about intangible and tangible souvenir in order to get tourists opinion and ideas. The majority claim that intangible souvenirs could not replace tangible souvenirs, yet, they agreed to combine the tangible material to the intangible souvenir technology. In addition, tourists argued that digitalization in souvenirs might be increasing the souvenir price. Indeed, a wise material should be examined to achieve a decent and affordable Augmented Reality souvenir.

## 4. Conclusion

The potential of Augmented Reality souvenirs in agro-tourism is promising. However, we discuss with the tourist, who agrees that intangible souvenirs could not replace tangible souvenirs. The sensation of holding the object while memorizing the past memorable activity still gives them a better sensation. In terms of a short interview, tourists like to buy a new kind of souvenir in agro-tourism besides the farming products. The needs of buying souvenir during travel for self or others are essential for tourist.

In Indonesia, agro-tourism is a popular destination because of its direct-to-consumer sales. Some well-known farms like Cimory Cisarua farm produce many Cimory brands, and Agrowisata Wonosari makes Rollaas tea offer fascinating agricultural and useful products that draw tourist attention. Their recreation park is well-organized, and their farming products are well-known. In summary, this study could support future studies to create an Augmented Reality souvenir's design framework and design product.

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