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THE MODERATING EFFECT OF THE USE OF VIRTUAL REALITY ON CULTURAL BRAND HERITAGE TOURISM

ABSTRACT

One of the main concerns of many countries is the maintenance of their cultural expressions over time. Cultural expressions allow a deeper definition of the factors that make up the identity of a nation. The purpose of this study was to analyse the moderating effect of the use of virtual reality technologies in the relationship between the different categories of cultural branding and brand heritage in the cultural tourism sector of a country. The sample considered the perceptions of 460 individuals who frequently attend cultural events and who have used event advertising with virtual reality. By utilising the structural equations multigroup technique, it is possible to find direct and indirect links between the variables that determine a nation's brand heritage by using two groups: those using traditional methods, and those using virtual reality. The results indicate that there is a direct and positive moderation effect in the relationships between the different cultural branding categories and brand heritage. On the other hand, while the social and personal brand identity positively affects the brand heritage, brand equity and brand awe are not significant in traditional channels, unlike in virtual reality.

Keywords: brand heritage, brand equity, social brand identity, brand awe, personal brand identity, virtual reality, marketing communication

INTRODUCTION

According to the European Commission (2023), cultural heritage is an aspect of great relevance, mainly because it protects the various creative expressions that are part of the legacy of previous generations. The different means that have allowed us to have protection strategies for this legacy have been museums, monuments, the concepts of historic cities, literature, audiovisuals, practices, and traditions.

An essential aspect of highlighting cultural heritage is related to the possibility of enriching people's lives from a cultural and creative point of view, contributing to the improvement of the social capital of a country. Similarly, an improvement in the dynamics of this industry is related to economic growth and employability, which allows for promoting and revitalising sustainable tourism.

On the other hand, the current importance of cultural heritage is also part of the interest of public policymakers in the possibility of developing the creative and cultural sectors as a fundamental axis for the transition to circular and creative economies. Additionally, the effort in this sector will bring a sense of identity, culture and values, especially to young populations, strengthening their social cohesion.

From the sector's point of view, creative and cultural companies need help in terms of the market in regard to how to deal with the need to increase demand for their cultural products. This condition is where studies on brand heritage take on significant importance (Balmer & Chen 2016). For academics, the concept of heritage corresponds to a notion related to the tangible, intangible and metaphysical (Balmer 2013; Brunninge 2023). In the same way, its application to the field of branding also considers a broad spectrum where objects and monuments are usually used with a symbolic representation that has a strong level of identity (Brunninge 2023).

Considering the primary studies in the field of heritage, it is possible to find some areas of interest in research as a corporate strategy (Brunninge 2023), adverse effects (Sørensen *et al.* 2021), studies of theoretical foundation (Burghausen 2023; Alexander & Doherty 2023), country studies (Pecot *et al.* 2023; Thondhlana *et al.* 2021; Den Hartog & Martínez 2022), sector studies (Shen 2022), the consumer (Chen 2022), and sustainability (Manta *et al.* 2022; Madan *et al.* 2022).

The first gap in the literature is the need to identify the perceptions and factors influencing brand heritage (Brunninge 2023). A second gap concerns the need to study the influence of different technologies that may contain other data types that determine perceptions of brand equity (Shen 2022). In this way, the present study aims to identify the moderating effect of virtual reality technologies on the relationships between the different types of brands and the brand heritage of the users of the products of a country's creative and cultural industry.

THEORETICAL FRAMEWORK

Brand heritage foundations

As a field of study in consumer behaviour, heritage has been considered a fundamental aspect of a country's social and economic development (Prados-Peña *et al.* 2022). Similarly, it has been central to tourism, especially in promoting places such as world heritage sites (Hassan *et al.* 2023; Crespo-Almendros *et al.* 2023). The latter has been the subject of study of the heritage brand, especially in the identification of factors that allow for more effective promotion considering the risks of perceptions of tourists in the choice of tourist destinations (Steriopoulos *et al.* 2023; Halpenny *et al.* 2018).

Brand heritage allows us to consider tourist acts as a public good that can be the object of consumption, especially cultural tourism (Scarpi *et al.* 2023). In this way, brand heritage contributes not only to the economic development and social dynamics of a territory but also to the generation of a platform that allows for the safeguarding of the cultural elements of a population (Crespo-Almendros *et al.* 2023). The knowledge, monuments and sites related to cultural assets allow for preservation through the promotion of cultural tourism (James 1993; Timothy 2018).

According to Brunninge (2023), heritage is considered a branding category. The heritage brand can define how people can define themselves by considering symbols, emotions, and places in specific time ranges. Heritage is conceived as a representation of an individual's consciousness that goes beyond the simple historical connotation that an event may have. For scholars such as Balmer and Chen (2016), heritage has been the object of interest of various disciplines, including tourism, sociology, marketing, and anthropology. It should be mentioned that heritage is also considered of immeasurable value, composed of symbols that embellish the reality of individuals through meanings (Guo & Zhu 2023; Hayden 1987).

Social brand identity

Musa *et al.* (2020) suggest that brand identity is one of the most critical tourism-related processes as brand identity becomes a strategy that allows for the construction of the brand articulated to an aspirational image towards those who are the target of the defined audience. This form of branding raises the need to participate and collaborate with the different stakeholders in the initial stages of the development of tourist sites to allow for the identification of core values in the development of the brand.

On the other hand, academics such as Kapferer (2012) suggest that brand identity is based on how an individual can identify himself or herself. In this way, each brand has an essence that makes it different from the others. This condition is how brand identity is an abstract construction that synthesises the essence of a brand, considering the vision and distinctiveness that is awakened in the consumer. This is an individual process and part of the social dynamics close to the tourist service providers.

The success of brand identity is based on how the different stakeholders are included, especially in the development of differential factors that improve the competitive advantage and the efficiency and profitability of tourist activity (Musa *et al.* 2020). This type of identity is built in the social field, where people independently represent themselves as belonging to a group (Markus & Wurf 1987).

Other scholars in the field of branding define the brand's social identity as a sense of belonging to a community that has a natural association and represents a feeling in common with other consumers (Keller 1993; Burnasheva *et al.* 2019). This social process has four components that determine the sense of community with the brand: influence, integration, the need for satisfaction, and mutual emotion. These four components are related to the processes of recognition and belonging to a social group, particularly to the role occupied within the social group and the ability to influence it.

Finally, the satisfaction of the specific needs that the community provides to the individual is included, along with the emotion felt by being part of the community (Burnasheva *et al.* 2019). Regarding brand heritage, to the extent that people feel more identified and share the values and beliefs of the sites they visit, the greater their emotions will be of being part of the tourist groups who develop this type of activity. Considering the above, the following hypothesis is proposed:

H1: Brand heritage directly and positively affects social brand identity.

A key element to highlight is that studies on virtual reality's effects on providing tourism services are scarce (Huang & Liu 2021; Senyao & Ha 2022). Research in the fields of consumerism and tourism suggests that virtual reality technology itself demands a specific type of skill for practical use (Liu 2020). Other academics have found that tourists who use virtual reality successfully have had a better connection with satisfaction in using these tourist visits (Chung *et al.* 2015). According to Liu's study (2020), the more individuals identify with the social group of tourists who regularly engage with virtual reality-based tourist services, the stronger their connection to those who typically visit sites recognised as cultural heritage. Considering the above, the following hypothesis is proposed:

H2: Virtual reality moderates the relationship between social brand identity and brand heritage.

Personal brand identity

Scholars in the field of branding state that identity is a product of social interaction determined by the context in which said interactions occur (Delpont & Mulder 2021). In the same way, identity requires a medium in which interaction takes place both in person and through an online medium. In this way, social media has become a space where the market value is increased through the type of branding developed for individuals and organisations.

As far as personal identity is concerned, this is generated in a social context through activities, opinions and relationships that are outside professional activities. At the same time, personal branding is a type of personality that gives meaning to an audience's perceptions concerning an individual's values and qualities. The personal brand identity combines personal aspects and those projected onto others. The personal brand identity then allows the construction of a positive impression that carries with it skills and values that characterise the image of a person. To the extent that a person has a greater personal brand identity, they will have greater self-esteem, the need to belong to a group, and the type of rewards that are valuable to them and that serve as a stimulus.

Therefore, brand identity becomes a strategic process for organisations because individuals will have the ability to face the demands of the markets in terms of relationships with other people. Scholars such as Delpont and Mulder (2021) consider Maslow's approach to people's social needs essential to advance to a higher level of satisfaction and optimise their social relationships.

Antonios (2010) argues that virtual platforms influence individuals' behaviour, leading them to initially base themselves on the basic needs of existence, thus defining five phases for constructing personal branding. The first phase relates to how comfortable the environment is where they share their feelings with other people. The second, third and fourth phases focus on connecting with other individuals, sharing and interacting with others in virtual spaces. Finally, the fifth level is associated with building a solid image showing its qualities, and thinking and constructing personal branding.

Literature suggests that consumers, through the perceptions they develop of a company through narratives, visualisations and varied communications, associate brand heritage with a legitimacy that adds value and reinforces the values and beliefs shared by consumers (Zeren & Kara 2020). It should be noted that even though consumers do not have much information about brand heritage, perceptions are accentuated, creating the perfect scenario to develop a personal brand identity because of the image perceived through the built brand heritage. Thus, the following hypothesis is posited:

H3: Brand heritage directly and positively affects personal brand identity.

Virtual platforms are essential to study the relationship between brand heritage and identity, especially in forming online identities or those requiring a particular type of physical presence in personal interactions. Additionally, online and face-to-face media use tend to promote different performances in individuals according to their interactions with others. This is because there is more significant differentiation between the types of discourse, both in public and in private, which will be sought, leading to forming their identity (Van Dijck 2013). Despite the complexity of the interactions in online versus face-to-face contexts, even for scholars like Allen (2015), identity formation in social media still needs to be explored. Some studies have shown variations in how these identities are formed and how they affect the performance of individuals, even in some cases the loss of it, even more so when using virtual platforms (Holton & Molyneux 2017). Based on the above, the following hypothesis is proposed:

H4: Virtual reality moderates the relationship between brand heritage and personal brand identity.

Brand equity

Destination branding is a crucial element of tourism (Prados-Peña & Del Barrio-García 2021). According to scholars such as Halpenny *et al.* (2018), tourist sites with a cultural heritage figure have been the target of more visitors and continuous improvements in attracting new tourists. The brand management of these destinations supports promotional efforts to improve tourist destinations, thus improving brand equity and brand heritage as a strategy for tourist destinations (Del Barrio-García & Prados-Peña 2019).

Brand equity is perceived as a differential effect on the consumer that comes from brand awareness, which leads promotional actions to have a more effective response from the consumer (Aaker 2009). Thus, brand equity has become one of the most relevant concepts, especially in marketing theory (Stojanovic *et al.* 2018).

For tourist destinations, the concept of brand equity allows for the establishment of measurements in the performance of destinations and their effect on consumers' perceptions of the brand (Frías-Jamilena *et al.* 2018). In the same way, the need to investigate the effects of brand equity on brand heritage has been recognised, given that tourist destinations have been the subject of multiple interpretations about the factors that most affect brand heritage (Frías-Jamilena *et al.* 2018).

Brand equity is perceived to add value to the provision of tourism products. Adding value occurs when the symbols and other representations that the brand brings allow consumers to appreciate a differentiation between other market options (Keller 1993).

According to the above, brand equity is a way through which organisations can take advantage of the generation of strategies that allows them to improve consumer engagement in tourist destinations through brand perception (Kim *et al.* 2019). The consumer of this type of service tends to associate their perception of the sites defined as cultural heritage when the brand equity is substantial, allowing the generation of positive associations in terms of quality and authenticity (King 2011). Considering the previous statement, we propose the following hypothesis:

H5: Brand equity directly and positively affects brand heritage.

Regarding the relationship between virtual reality and its influence on brand equity and brand heritage, adopting technologies such as virtual reality plays an essential role as it allows for a closer evaluation of a brand (Xi & Hamari 2021). Since brand equity considers the subjective evaluation of a product based on a brand, virtual reality will directly influence marketing strategies, especially in building brands that benefit organisations (Zhang *et al.* 2010). However, there is still a need to study how virtual reality can affect processes related to brand building, considering the emotional aspects in the processes related to branding (Nah *et al.* 2011). Scholars such as Yuan *et al.* (2023) raise the need to continue studying the different roles between adopting virtual reality in companies, brand equity, and the construction of brands. Thus, the following hypothesis is posited:

H6: Virtual reality has a moderating effect on the relationship between brand equity and brand heritage.

Brand awe

According to Kim *et al.* (2021), the responses that brands can generate in consumers are varied in both types and levels of intensity. These reactions to trademarks can generate representations that inspire strong emotions and diverse responses. Despite this, the mechanisms by which these emotions are generated are still unknown. Brand awareness was born as a community denominator in the intense emotions provoked by branding (Keltner & Haidt 2003).

Brand awe is defined as an emotional response that is perceived from a stimulus. Konecni (2005) states that from a psychological point of view, brand awe includes a mix of enjoyment and fear. Brand awe has two properties: the vastness defined by an object's physical perception and the abstract idea of the same. Perception will be based on the context in which the experimentation of the object occurs. The second property is defined as accommodation. What is referred to as the perception

generated is immersed in a knowledge structure. When the individual perceives the idea, it is adopted, and follows their expectations (Kim *et al.* 2021).

Brand awe also considers a consumer's perception when it generates social status, as is the case with luxury brands, but simultaneously has an accommodation process with his/her purchase expectations, thus generating an intense emotion in the consumer. Brand awe becomes an effective tool for knowing consumers' responses to brands (Kim *et al.* 2021).

Concerning brand heritage, brand awe becomes a fundamental element in promoting tourist sites, especially in generating an environment in which representations and symbols are primary elements for the generation of cultural identity (Wang 2017). Such is the case with Chinese monuments and historic sites, where the government creates the conditions for internalising cultural spaces, generating a compelling show and various sensations. Despite the above, scholars suggest continuing to study the various factors related to brand awe, especially in cultural branding (Kim *et al.* 2021). Based on the above, the following hypothesis is proposed:

H7: Brand awe identity directly and positively affects brand heritage.

Scholars such as Chirico *et al.* (2018) raise the need to analyse how technological advances influence brand awe and the construction of brands. Other scholars, such as Hinsch *et al.* (2020), argue that virtual reality allows users to have a perception of space and a sense of presence that generates better conditions for brand awe and thus contributes to the construction of the brand, especially in cultural and artistic sectors. Finally, through virtual reality, the conditions are created so that the driver can generate mental representations that are fundamental for the development of brand awe, especially in the construction of the brand in a positive way. Thus, the following hypothesis is posed:

H8: Virtual reality has a moderating effect on the relationship between brand awe and brand heritage.

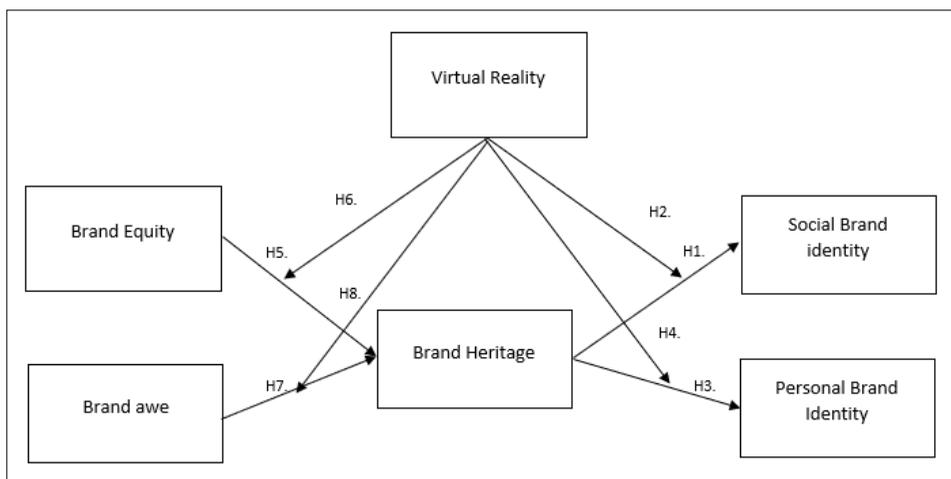


FIGURE 1: CONCEPTUAL MODEL

METHODOLOGY

Data collection

To test the hypotheses, a survey was employed. The sample was drawn from a range of Colombian tourists who identified as tourists interested in cultural representation sites. According to UNESCO, Colombia is one of the nations committed to preserving the viability of 13 of the 677 elements that make up the world's existing cultural heritage (with another 13 in the process of being recognised). The study concentrated on the many cultural experiences that Colombian tourists have across their territory, where it is said that visitors come from more than 22 countries. A company in charge of conducting the surveys personally contacted the tourists. The questionnaire's first question needed respondents to indicate if their primary motivation was cultural tourism.

The information corresponds to 460 tourists contacted at the 13 UNESCO-recognised venues between January and March 2023. These tourists were divided into two groups: those who used virtual media to choose a tourist destination, and those who did not. A total of 110 tourists used virtual reality as a destination visualisation tool, whereas 350 people used traditional methods. The survey's sociodemographic characteristics are as follows: 35% men, 56% women, and 9% LGBT2Q+ individuals comprised this group. In terms of education, 49% of the tourists indicated that they have an undergraduate (bachelor's) degree, while 23% have a postgraduate degree, and 28% have other forms of education.

Variables

For data collection, it was necessary to develop a questionnaire about personal information; subsequently, a measurement scale was provided based on the literature review. Personal brand identity was developed by Jing (2006) with three items: "The personal image of brand heritage matches my image", "I support the values embodied by brand heritage products or services", and "I agree with the lifestyle that this brand represents".

On the other hand, social brand identity comprises the three items developed by Jing (2006) and adapted by Guo and Zhu (2023): "My social status may be reflected in the brand's heritage", "Others may respect me because of my brand heritage", and "This brand heritage can assist me in differentiating myself from others".

Brand equity is defined as the differential influence of brand awareness on consumers. It was tested using three items established by He and Li (2011): "It makes more sense to visit places designated as cultural heritage than those not", "Even if another company offers identical characteristics, I would visit cultural heritage destinations instead", and "If another destination is designated as something other than cultural heritage as nice as this one, I prefer to visit those that are".

The brand awe scale was developed by Kim *et al.* (2020) with three dimensions: euphoria ("feel special seeing it", "feel lucky to see it", "be inspired just by seeing it"), enthrallment ("stop and stare at it", "automatically gets someone's attention", "stands

out from the rest”) and vastness (“feel insignificant compared to it”, “feel the presence of something greater than myself”, “be intimidated by the presence of it”).

For the concept of brand heritage, three measurement scales with broader acceptance in the academic community have been developed (Pecot *et al.* 2023; Wiedmann *et al.* 2011). Pecot *et al.* (2023) developed a different scale that includes cultural context, allowing use in various environments and countries. As a result, brand heritage measurement is a second-order scale with four dimensions and three items for each dimension: longevity, symbols, outdatedness, and adaptability.

Finally, virtual reality is used as a dichotomic variable in this study, where two options are established: if the virtual platform is used, the value is = 1; otherwise, the value is = 0.

Model

Data was analysed using STATA© (Statistical Software for Data Science) Version 17. In this case, a multigroup technique was used. Multigroup is the most effective and versatile method for modelling structural equations using the squares algorithm, and it is applied in a wide range of research areas. The measurement models are verified using confirmatory composite analysis. The measurement models are further validated using Stata SEM (Structural Equation Model).

Due to the capacity of these types of models to simultaneously analyse complicated correlations between several variables, their use is widely accepted in the field of social sciences, particularly when attempting to identify consumer, tourist, or user behaviour (Haudi 2022; Salas-Paramo & Escandon-Barbosa 2022; Escandon *et al.* 2023). Given that this study looked at the moderating impact of virtual reality on the relationship between numerous categories of cultural branding and brand heritage, SEM offers a complete strategy for capturing and analysing these interrelationships. SEM also reduces measurement bias and enhances the accuracy of the computed correlations by taking measurement errors into consideration. Calculating the invariance of its measurements is necessary to investigate the comparison impact and ascertain whether it is moderate to eliminate mistakes. Multigroup analysis can help organisations decide if prepared data shows significant differences in specific group outcomes.

For each scale, correlational and exploratory factorial analyses were employed to determine its fit and one-dimensionality to examine the scales’ psychometric features. A confirmatory factorial analysis (CFA) was then utilised to evaluate the discriminant and convergent validity of the components. With indices over 0.6 and 0.8, the CFA and SCR (scale composite reliability) are dependable. A level larger than 0.5 was also revealed by the average variance extracted (AVE) (Fornell & Larcker 1981). In all scales, discriminant validity is verified.

Table 1 highlights the constructs employed in the research, presenting them as means and standard deviations to offer an overview of the interrelationships among the constructs that contain the correlations.

TABLE 1: CONSTRUCTS

	Mean	SD	PBI	SBI	BH	BA	BE	SCR	AVE	Cronbach Alpha
Personal brand identity	5.68	0.440	1					0.80	0.61	0.84
Social brand identity	5.45	0.44	0.40	1				0.81	0.64	0.86
Brand heritage	4.18	1.041	0.45	0.14	1			0.84	0.68	0.91
Brand awe	4.71	0.745	0.11	0.012	0.34	1		0.861	0.71	0.89
Brand equity	4.57	0.323	0.02	0.14	0.39	0.165	1	0.912	0.78	0.93

The Harman factor was used to test for issues with common method variance, becoming a typical issue if all variables are tested using the same tool (the survey), leading to the variation being assigned to the method rather than the constructs (Podsakoff *et al.* 2003). As a result, the researchers conducted a factor analysis that proved that the eigen-values of all components were more than one as well contributed to more than 74% of the total variance; however, when Harman's single factor test (one factor) was used, the variance explained for 53%.

Results

We used two groups to establish our multigroup model, one using virtual reality and the other not. The model's outcomes lead to the conclusion that it has a fair degree of fit. For the entire sample, the statistical corrections were as follows: $\chi^2(460) = 245.45$; Root Mean Square Error of Approximation (RMSEA) = 0.061; Comparative Fit Index (CFI) = 0.931. Table 2 presents the analysis of the results from the theoretical model for each proposed hypothesis. Hypothesis 1 is accepted that brand heritage has a direct and positive effect on social brand identity ($\beta_{12} = 0.762$; $p < 0.01$), and this relationship is stronger if virtual reality is used ($\beta_{12} = 0.874$, $p < 0.01$) compared to not using it ($\beta_{12} = 0.761$, $p < 0.01$), resulting in significant differences between these two groups of tourists ($t = 2.03$ $p < 0.01$). As a result, hypothesis 2, that virtual reality has a moderating influence on the relationship between social brand identity and brand heritage, is confirmed.

TABLE 2: MULTIGROUP RESULTS: COEFFICIENT, P VALUE AND T TEST

Model Relation	Multigroup				
	Traditional channel		Virtual Reality		
	Coefficient	ρ	Coefficient	P	t Test (Valor p)
BH-->PBI	0.762	0.010***	0.318	0.000***	2.03 (0.00***)
BH-->SBI	0.874	0.046 ***	0.122	0.045**	3.53 (0.00***)
BE-->BH	0.148	0.000***	0.192	0.000***	1.042 (0.94)
BA-->BH	0.101	0.123	0.153	0.000***	4.06 (0.00***)
*** p<0.01; ** p <0.05 *p<0.10					

Regarding hypothesis 3, the findings revealed that brand heritage has a direct and positive influence on personal brand identity ($\beta_{21} = 0.318$, $p < 0.01$), as well as that virtual reality has a moderating effect on the link between brand heritage and personal brand identity ($\beta_{21} = 0.122$; $p < 0.1$). In this respect, the findings support hypothesis 4 by demonstrating a significant difference in the outcomes of this relationship across groups ($t = 3.53$ $p < 0.01$).

Moreover, hypothesis 5 confirms that brand equity directly and positively affects brand heritage ($\gamma_{21} = 0.148$; $p > 0.1$). However, virtual reality has no significant effect on brand equity and brand heritage, allowing hypothesis 6 to be rejected.

At the same time, no significant evidence is found to support the claim that brand awe has a direct and positive effect on brand heritage ($\gamma_{22} = 0.101$; $p > 0.1$). As a result, hypothesis 7 is not confirmed. However, when the option of having virtual reality as a strategy before a tourist visit is included, a significant result in the relationship between brand awe and brand heritage is achieved, confirming hypothesis 8.

TABLE 3: SUMMARY OF RESULTS

Hypothesis	Results
H1	Accepted
H2	Accepted
H3	Accepted
H4	Accepted
H5	Accepted
H6	Rejected
H7	Rejected
H8	Accepted

DISCUSSION

This study aimed to examine the moderating effect of virtual reality technologies on the cultural tourism industry. This study investigated how virtual reality might influence the relationship between several categories of cultural branding and brand equity in a country's cultural tourism. To achieve the goal, a survey of 460 tourists was undertaken between January and March 2023 at 13 UNESCO-recognised sites. The tourists were separated into two groups: those who chose a tourist location using virtual media, and those who did not.

After conducting this study on the moderating effect of virtual reality technologies on the branding of the cultural tourism sector, the authors can conclude that virtual reality can significantly impact the relationship between the various branding categories and brand heritage in tourist destinations recognised as heritage. The results indicate that virtual reality technologies can improve tourists' perception and appreciation of cultural heritage, increasing their intention to visit these places.

The research suggests that personal brand identity and brand heritage are related in that both are based on symbols, emotions, and experiences that are important to individuals. This statement is consistent with what Delport and Mulder (2021) have proposed. As a result, personal brand identity is how people present themselves to the world, frequently shaped by their experiences, values, and beliefs. Similarly, brand heritage is founded on historical events, symbols, and values that are meaningful to a specific group or community. Therefore, tourism to sites recognised as cultural heritage allows a greater development of personal brand identity because it can create, relate, or consolidate emotions and symbols that have been proclaimed valuable and allow for a better vision of oneself. Then, the perceptions are accentuated, creating the option of developing a brand identity by visiting places with a high level of brand heritage (Zeren & Kara 2020).

Additionally, if the existence of virtual reality is included, it allows for potentiating emotions prior to purchase. In this sense, the subsequent visit to heritage sites will further increase the connection between brand heritage and personal brand identity through the interactive nature of virtual spaces and the potentiation of experiences that will positively affect the desire to know the heritage sites and their brand.

In the case of social brand identity, it is an aspirational strategy of individuals within society and generates segmentation based on the products or services offered. In the case of tourism to heritage sites, the research relates to what was found by Musa *et al.* (2020), that people want to belong to groups as a way of enhancing their image and this is related to the distinction that a tourist service can generate as a reputation, improving the perception of their image in society.

In the case of the relevance of virtual reality, although it is recent, the research is on what was stated by Huang *et al.* (2021), which affirms that this type of technology helps to obtain better information and satisfaction of the tourist service to which travel is planned. This technology will allow for knowing in greater detail the characteristics and appropriate knowledge related to the brand heritage of the tourist destination and incorporate it into what is socially accepted within the social brand identity (Senyao *et al.* 2022).

CONCLUSIONS

This study confirmed that brand awe may enhance a brand heritage's symbolic and literary components (Kim *et al.* 2021). For instance, when individuals observe the dimensions associated with a brand, brand awe may cause sentiments of grandeur, mystique, and veneration for the heritage past. This situation could enhance consumers' impressions of the brand's positioning and cultural identity. However, according to this study, Kim *et al.*'s (2021) proposal of creating excitement around a brand established through cultural heritage recognition might not raise expectations or influence travel to locations with high patrimonial representation. However, virtual reality before a visit generates a more significant connection of positive feelings toward the destination's recognised heritage. It improves brand heritage due to the availability of more information and experiential experiences generated by virtual reality.

Also, brand amazement may produce intense feelings and sensations that are shared and memorable. When customers feel more emotions and develop a greater connection with brand heritage by bringing it to a larger audience, they are more inclined to share their mind-blowing experiences via word-of-mouth, on social media, and on other channels like virtual reality (Holton & Molyneux 2017).

Brand equity influences brand heritage by changing how tourists perceive a destination as a place of cultural significance. A place may market itself as a distinctive and genuine experience for tourists when it has high brand equity and can foster good connections with its cultural history. According to Prados-Peña *et al.* (2021) and Halpenny *et al.* (2018), this may lead to an increase in visits and to improvements in attracting new visitors. Furthermore, through proper brand management, brand equity may help enhance brand equity and brand heritage. Destinations can improve their brand equity and, as a result, their brand heritage by proactively managing their brand's image, communication, and experiences. This is especially valid when the destination is recognised as a UNESCO World Heritage Site.

Theoretical contributions

Among the theoretical contributions is the contribution to the need raised by scholars in the field to identify new concepts that influence brand heritage and the effects on the formation of personal and social brand identity. In the same way, this research contributes to the understanding of the moderating effect of virtual reality technologies on the relationship between cultural branding categories and brand equity in the cultural tourism industry. It emphasises the significant role of virtual reality in determining tourists' perceptions and appreciation of cultural heritage, influencing their intention to visit heritage sites. This provides insight into the role of technology in enhancing cultural tourism destinations' branding and marketing strategies. Additionally, the study demonstrates the relationship between personal brand identity and brand heritage. It indicates that symbols, emotions, and experiences that are meaningful to individuals influence both personal brand identity and brand heritage. This finding adds to the existing body of knowledge by emphasising the role of cultural heritage tourism in forming and expressing personal brand identity.

Suggestions for further research

The significance and relevance of this study is based on its investigation of the moderating effect of virtual reality technologies in cultural tourism. The study established a strong basis for future research by filling gaps in the existing literature, integrating multiple theoretical perspectives, and emphasising the potential of virtual reality in shaping tourists' perceptions and experiences. The constantly evolving nature of technology, consumer behaviour, and cultural heritage preservation necessitates additional research to expand our understanding and contribute to the field's advancement.

The main contribution for managers, especially in the creative and cultural industry, is in how strategies are proposed to improve consumers' perception of this type of product in terms of the brand and how identity is generated in themselves. On the other hand, strategies focused on managing consumer emotions can be better understood with concepts such as brand equity and awe, which have received increasing attention from company promotion directors.

An additional element is in the way in which the adoption of new technologies becomes a fundamental element for the promotional processes of companies, especially with the use of virtual reality technology to reach younger generations. Future studies could look at identifying consequent factors of brand heritage, more related to consumer satisfaction with this type of product or the intentions of using them again. Another line for future studies is generational studies, especially in identifying personal and social factors that affect the use of products from the creative and cultural industries. Finally, including variables related to the context of this type of company will be key to know their role and levels of influence.

Ethical considerations

The authors of this article have considered the fundamental ethical principles for developing the study. In this way, the authors raised the reliability of the results obtained. The participants were informed about the research objectives, procedures, and potential risks or benefits before agreeing to participate. The participants were assigned a code to ensure anonymity, and personal information was not included in the reports. Finally, the confidentiality and the archiving of the information were done considering all levels of security, ensuring its access to authorised researchers.

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