

Article

A Theoretical Concept of an Innovative and Sustainable Product Based on an Unconventional Approach to Design Development

Gábor Megyeri *, Kitti Boros and Balázs Fekete

Institute of Marketing, Corvinus University of Budapest, Fővám tér 8, H-1093 Budapest, Hungary; kitti.boros@uni-corvinus.hu (K.B.); education@balazsfekete.com (B.F.)

* Correspondence: gabor.megyeri@uni-corvinus.hu

Abstract: Health security measures have become increasingly important in tourism, as there is a heightened need to rebuild the trust of tourists in destinations and tourism services. Innovative product development might help respond to the emerging health-related needs of tourists. We address the lack of the application of Designcommunication (DIS:CO)-based approaches in the field of tourism, present a process for the theoretical development of a smart device, and explore its applications. Combining the results of the qualitative inquiry and applying DIS:CO in research and development, the concept of 4S—traveling Safe, Secure, Smart, and Sustainable—emerges in a socio-cultural and economic context, supporting the foundation of the material realisation of the product. As a result, the 4S concept presents how customised, continual feedback on the health condition of the user before and during a trip, and notifications about possible health risks in different tourist areas, might facilitate the process of trust-building. Although data on unconventional tourists is not included in tourism statistics, the designed product can assist in gathering information about them, too. With the permission of users, the built-in functions of the designed product can be used to detect their position and direction of movement. The product also helps monitor the health of tourists by providing up-to-date data on infection levels to tourism service providers. In its passive mode, as a souvenir, the device strengthens travel desire.

Keywords: tourism safety; design concept; Designcommunication; unconventional approach; cross-border mobility



Citation: Megyeri, G.; Boros, K.; Fekete, B. A Theoretical Concept of an Innovative and Sustainable Product Based on an Unconventional Approach to Design Development. *Sustainability* **2022**, *14*, 3022. <https://doi.org/10.3390/su14053022>

Academic Editors: Anna Rita Irimías, Dallen J. Timothy and Gábor Michalkó

Received: 1 February 2022

Accepted: 28 February 2022

Published: 4 March 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The novelty in our research is that we present a process of how Designcommunication (DIS:CO) and tourism can be connected in a way that results in the creation of the design concept of the product. The term “Designcommunication” is a patented expression (abbrev. DIS:CO), intentionally written in compound form referring to the definition of the term provided by its author, Attila Róbert Cosovan: Designcommunication = DIS:CO = communication integrated into development, according to the Hungarian Gazette for Patents and Trademarks (113. no. 12./I., 2008.12.15. Registration number: 196961). Interpreting the field of tourism as a context for design has become an increasingly common phenomenon. The field of service design seems to be a rapidly developing area. A strong customer-centred approach, combined with an academic understanding of both tourism and service design research, enhances both fields [1,2]. The branch of design theory that we work in can be identified as an example of human-centred design, applied in tourism in this case. The definition of Tussyadiah (2013) [3] (p. 548) of such approaches is that they can be characterised by an extensive awareness of the needs, wants, and expectations of humans, and the goal is to establish “a direct connection between the internal state of users, design characteristics, and the contexts of interactions between users and design”. The DIS:CO theory and method fit this description, and thus can become excellent tools for development in the field of tourism. The application of DIS:CO facilitates concept formulation in a way that utilises the

capacity for creativity in the form of interdisciplinary collaboration without the limitations of a rigid process.

The travel restrictions put in place by governments as a response to the COVID-19 pandemic have not only affected tourism revenues worldwide [4,5] but have also changed the behaviour of tourists [6]. According to Irimiás and Michalkó (2016) [7], attitude is shaped by enduring beliefs and tendencies (such as hate or longing) in relation to objects or persons. The researchers also found that mood and attitude can greatly differ with the levels of emotion [7]. Travel craving can be interpreted as a context-specific construct that appears when people are unable to travel, either for economic or health reasons or due to external constraints [8]. Travel craving is not a precursor of actual travel, but a cognitive-emotional event in time that focuses on travel when it is not possible [8]. Previous tourism practices will no longer meet the changing demands of tourists and, as a result, actors in the tourism supply chain need to be prepared for the challenges of the post-COVID-19 era. This is by no means a return to 'the normal' we experienced before, but an adaptation to a changing and developing world that will never be the same as it was before the pandemic. In the post-COVID-19 era, tourism practices need to be redesigned, and an unconventional approach based on product design and development will play an important role in the process. Based on the findings of Freire-Gibb and Lorentzen (2011) [9] (p. 165), we created the theoretical concept of an innovative product that is built on the idea that "taking unconventional approaches leads to the creation of something special. When we work together, across all kinds of boundaries, we can achieve things that we could never accomplish alone." The B-bridge product concept [10] has been expanded on this basis in this paper. The tool theoretically created as part of the B-bridge concept, a bracelet, may play an important role in the restoration of tourist traffic to Budapest, may contribute to the incentivisation of domestic tourists to visit the Hungarian capital, and may result in longer lengths of stay. The idea of the B-bridge concept—the name of which was inspired by the bridges of Budapest—has served as the basis for the 4S (Safe, Secure, Smart, and Sustainable) concept of our new product created in response to the pandemic. The new product (which is also a bracelet), while active, constantly monitors the state of health of the tourist and, when inactive, functions as an accessory and souvenir. The designed product has the capacity to influence both the mood and the attitude of the wearer. In its active mode, it shapes their mood as a smart device that monitors their state of health and offers various services, while in its passive mode, it shapes attitudes by evoking the longing for the pleasant memories it recalls, which is a reflection of the phenomenon explored in the literature.

The paper is structured as follows: a description of the reasons that justify the need for the research and of the current situation of international tourism is followed by a presentation of the trends of new tourism such as safety, smart technology, and sustainability, based on the literature (Section 2). In the Methodology section, the research design (the formulation of research questions and the explanation of the qualitative research method) is described in detail. With the interdisciplinary approach of the scientific fields that our research is rooted in, we have identified six dilemmas that helped us formulate our research question. Our research question is: "How can sustainable product design and development support the prosperity of different tourism products in the new normal?" (Section 3). The next section discusses the results, for which the groundwork is laid by the findings of the qualitative research, and the 4S product concept is created. The idea behind the product is presented both from a product designer's and a user's perspective, supported by theoretical examples (Section 4). The paper is then closed with the conclusions that can be drawn from our research, the description of the recommended managerial implications (Section 5), and a review of the limitations of the study and of the possible directions for future research (Section 6).

2. Literature Review

2.1. Designcommunication (DIS:CO) as a Bridge between Society, Economy, and Design

Design, in general, translates to design art, creative design, and creative behaviour—it is now an integral part of business planning as well, and the popularity of the design thinking method is no accident [11] (p. 233). In the case of Designcommunication, it is combined with communication integrated into development, as the definition of DIS:CO [12] suggests. Studies linking design and tourism prefer to employ the specific and rigid process of Design Thinking (e.g., [13–15]). In the present study, we attempted to go beyond this iterative linear development model and chose the DIS:CO method, with possible exponential development in mind. As Cosovan et al. (2018) [11] suggest in the anthropological analysis of Designcommunication: it is a process where value creation takes place during a transitional rite, a value-oriented process that forms the configuration of designers' roles and the outcome at the end of the process. In the case of design thinking, this could only take place through a fixed routine and within the boundaries of pre-set creator roles. Designcommunication refers to utilising the perspectives and creative abilities of designers in order to solve open-ended problems within a divergent and unstrained process. The person or group utilising the DIS:CO approach and methodology gains transdisciplinary and interprofessional methods that can be used to create real-time links between education, research, and business [16,17]. DIS:CO is a relationship-building concept that emerges like a bridge between the phenomena of the various disciplines of society and the economy [11] and [17] (p. 36).

2.2. Safe and Secure Traveling

It is essential to clarify context in order for value creation to be realised through Designcommunication; thus, the theoretical background of related travel trends such as tourism safety, smart technologies, and sustainability are described in detail below. Efficient customer communication, strategy creation, the training of staff, and cooperation to ensure the quickest possible containment of the pandemic have become essential in this new situation and, as a result, tourism has needed to find new pathways since 2020 [18]. The popularity of domestic tourism grew dynamically in 2020 and 2021 since visitors were much more willing to choose nearby destinations during the crisis than more distant locations that were deemed less safe. Following the elimination of lockdown measures, the primary motivation behind touristic travel was visiting friends and relatives (VFR), which, beyond the reinforcement of personal relationships, also contributed to an increase in tourist traffic [19]. The COVID-19 pandemic also influenced the behaviour of tourists, since certain travellers chose to refrain from travelling in order to avoid the risks of the pandemic [20]. Thus, residents need to be encouraged to travel locally and visit local attractions, as it is their own country's or region's pandemic status that they know best, and they and their family can travel safely within the destination that they are residents in [21]. International research agrees that tourism first needs to be boosted through the promotion of domestic travel, and that will be followed by the growth of international tourism markets [22–24].

The popularity of local travel is not a new phenomenon—the concept of the “staycation” had already been present during the world economic crisis. The phrase was coined from the words “stay” and “vacation”, and its message is that people can recharge even while staying at home. In this touristic genre, visitors do not leave their homes during the vacation, and make one-day trips to local tourist attractions or participate in locally available recreational activities [25]. According to the 2021 report of the UNWTO, staycations and holidays spent near the home will regain their popularity in the future, as they provide a sense of safety for visitors. In the post-COVID-19 era, travel will continue to play an important role in stress reduction, socialisation processes, and the reinforcement of interpersonal relationships, but the exploration of local recreational options will be prioritised, as proven by the research of Steen Jacobsen et al. (2021) [26] through the territorial example of the metropolis of Oslo. The research of Weman-Josefsson (2021) [27]

also confirms the market penetration of the staycation: 86% of the Swedish population reported that in 2020 they spent their summer vacation domestically, at a destination close to their home, instead of previously preferred destinations. With the gradual return of the demand for international travel, personal safety and the health safety status of touristic destinations (which have been increasingly important factors even before the pandemic) are becoming top factors in destination choices. In the future, the public health situation of locations will cease to be an independent tourism safety factor, and it will need to be harmonised with classic sustainability goals which will also need to be a reference point for regulation and educational strategies [28]. The pandemic has highlighted not only the difficulties around public health but housing inequalities and the related health effects as well. The restrictions put in place for the containment of the pandemic changed people's attitudes toward their homes, which became the sole physical location of their everyday lives, and as a result, became multifunctional spaces [29].

The restrictions that have regulated international travel during the pandemic will contribute to increased tourist traffic during the restart period, as people wish to remedy the frustration caused by long periods of confinement by travelling. According to the conclusions of Crompton (1979) [30], after the end of the pandemic, the tourism sector will continue to need to prioritise product development and marketing activities focused on unmet socio-psychological needs in order to increase tourist traffic. However, the longing for novelty may decrease the willingness to return, as a destination that has been once visited can no longer be considered a novelty. At the same time, even novelty-seeking tourists can be induced to visit again through efficient product development. The COVID-19 pandemic and its effects will not override the two dimensions of the process of choosing a destination, as internal psychological and external non-psychological considerations [31] continue to be important factors. However, the two dimensions will presumably be broadened by additional elements, and the relative ratio of their importance in the decision-making process will change. The internal factors that influence decision-making constitute the push factors during decision-making, which include (1) psychological considerations, (2) physical factors, (3) social interactions, (4) and searching/discovering. These include 11 additional subcriteria as well, such as escapism, prestige, the desire for recreation, and the maintenance and improvement of health. External factors draw visitors to destinations as pull factors, as tangible immaterial and intangible factors. The two-pull type motivational factors include an additional nine subfactors, such as transport options, personal safety, the attractiveness of the destination, and expected benefits [32].

2.3. Smart Technologies

Besides the negative effects of the pandemic, certain consequences can be interpreted as positive, such as technological innovation, the fast-paced development of the information technology skills of humanity, and the penetration of virtual reality in tourism. These have been proven to have contributed to and enhanced the wellbeing and satisfaction of people during lockdowns and travel restrictions [33]. Although virtual tourism has alleviated people's frustration during lockdowns, studies [34–36] have shown that it cannot replace in-person tourism in the long run; thus, new tourism provides destinations an opportunity for renewal. Currently, predominant trends include the increasing advancement of extended reality systems, condensed experience-seeking, and interactivity, since new and innovative forms of tourism have emerged as a result of the travel restrictions of 2020 [37]. Extended reality (XR) includes all immersive technologies. It covers all of those that already exist, such as augmented reality (AR), virtual reality (VR), and mixed reality (MR), and also includes those that are yet to be created [38]. Virtual reality transfers users into an environment that is entirely different from physical reality, namely, into a virtual environment created and displayed by computers. This, contrary to augmented reality, does not include elements of the physical environment [39]. The role of hyper-reality and virtual communities continues to grow and, as a result, traditional interpretative methods are obsolete for today's tourists, particularly for generation Z, who are familiar with the full spectrum of audio-visual

technology. Tourists wish to participate in this active, entertaining, and informative process with all of their senses. One of the leading segments that spearheaded innovative solutions in response to the pandemic was the meetings and events industry; countless events were transferred into the online space fully or partially (hybrid events) or were postponed to later dates. The 2020 Tokyo Olympics were eventually held in the summer of 2021, and individuals entering the venues of the event and potential close contacts were identified through innovative biometric face recognition software [40].

The challenges posed by the COVID-19 pandemic have also created an opportunity for accepting certain rules as the norm. These can be adjusted as needed during a potential future crisis situation and, as a result, humanity can be more prepared to combat infectious diseases. Wearing masks to cover one's nose and mouth, regular hand sanitisation, physical distancing, and contactless technology all make it possible for business activities to continue, albeit under different conditions. In tourism, these contactless technologies can replace physical menu cards through scannable QR codes, and make contactless hotel check-ins possible through mobile room keys, contactless payment methods, and orders that can be submitted through mobile applications [41]. Contactless, easily adaptable, and customisable automated tools and devices facilitate and efficiently support both front-office (such as check-in/check-out) and back-office (such as guest follow-up, aftercare, and marketing) tasks. In the new normal, companies and organisations in the tourism sector need to have solutions that can help them manage uncertainty through the utilisation of automated and contactless services [42]. Even after the COVID-19 pandemic subsides, travellers will need to remain prepared, keep the appropriate distance from one another, sanitise their hands regularly, and pay extra attention to personal hygiene, while touristic service providers also need to be prepared for having these rules respected.

2.4. Aspects of Sustainable Development

The concept of sustainable development was defined in the 1980s, and its generally accepted and widely known definition was developed by the Brundtland Commission [43]. The goal of sustainable development is meeting the needs of modern-day society in a way that does not jeopardise the needs of future generations, creating equality between the generations [44]. The idea of sustainable development is comprised of three main aspects: environmental, economic, and sociocultural dimensions. However, there is no unified consensus yet among researchers regarding the synthesis and measurement of sustainability [45–48]. Members of the scientific community agree that the time horizon of sustainability is long-term [49,50] since sustainable practices—although they are capable of generating minor development even in the short term—can only yield real results in the field of touristic products and services if applied in the long term. Adopting a sustainable approach as widely as possible has become important for the mitigation of the negative effects of tourism; thus, the question of sustainability is being considered increasingly consciously by academics, tourism experts, and the tourists themselves [48].

The pandemic, despite the damage it has caused to tourism, is creating the opportunity for conscious change so that the sector can ensure long-term environmental, economic, and sociocultural sustainability. In the literature of tourism, sustainability was first understood as environmental sustainability alone, and researchers dedicated special attention to studying the subject [46]. Studies exploring environmental sustainability were increasingly focused on the investigation of the effects of climate change, and the ecological footprint of the tourism sector has proven to be rather large [51,52]. However, beyond the environmental factor, the economic dimension of sustainability also needs to be explored, as these issues can only be tackled jointly. The economic dimension of sustainability is the protection of the economic needs and the standard of living of the population [48]; in the context of tourism, this means that tourism-derived revenues need to benefit local residents as well. Being aware of the sociocultural aspect of sustainability is indispensable from a tourism perspective, as studies [53,54] have shown that environmental and sociocultural dimensions constitute the aggregated touristic resources jointly—that is, they are the defining

factors in the attractiveness of touristic destinations and the basis of touristic demand. A sustainable approach, besides its influence on the destination choices of tourists, is capable of inducing cultural change within a society according to Hediger (2000) [55], and this is what the innovative product presented in this paper could support. The sustainable approach represented by the product can be manifested in numerous ways. Traditionally, the environmental aspect was central for the designing and development of a sustainable product, and then a reflection on all three pillars of sustainability emerged [56]. The procedure contributes implicitly to the realisation of social equality and cohesion [57]. According to Santos et al. (2022) [58], in order to anchor this much more holistic interpretation of sustainability, a new paradigm needs to be applied in the case of touristic destinations. This theory needs to be manifested on the level of the product as well since the sustainability-related factors in product development are tightly connected to the concept of the circular economy and regenerative systems [59,60].

3. Methodology

3.1. The Aim of the Study

The relevance of the research is supported by the fact that opportunities provided by technological solutions supporting tourism are significantly increasing in today's digitalisation. This goes hand in hand with the challenges indicated by tourism megatrends and the need to provide solutions that support the safe and sustainable satisfaction of growing travel needs. The theoretical gap this paper aims to cover is that, although the interdisciplinary field of tourism is related to market-oriented fields such as marketing, more practical, design-oriented approaches to research and development are underrepresented.

The starting point of our interdisciplinary research was the following question: how can research and product development that support sustainable value creation be realised in the intersection of tourism, design, and marketing? Our goal is for theory and practice to manifest in an integrated form, and beyond research findings, provide a useful starting point for the creation of a concrete product in the future. This paper is the extension of our previous research [10,18], with our investigation extended to the subject of sustainability. While previously, [18] our objective was the reduction of pandemic-related health risks, this study and its findings aim to contribute to new tourism in a way that is sustainable in the long term, in the form of a concrete product concept that can be utilised in a practical way.

3.2. Research Question

The formulation of the final research question was supported by the process of creative dialogue based on Designcommunication [12]. DIS:CO "is a unique perspective where 'communication' emerges simultaneously to problem seeking and solving and is coded into the product, service or procedure created" [11] (pp. 233–234) and thus it is a design framework that can be utilised in various fields of society. The next figure (Figure 1) shows that, firstly, the common pool of researchers' and designers' subject-related questions was established in relation to the fields involved and their intersections. This method of formulating questions is in accordance with the approach of DIS:CO, as it can be understood as a form of creative connection building and creative behaviour that manifests on the level of dialogue between individuals [17].

The following dilemmas, connected to the various approaches and their intersections, assisted the process of formulating the research question through a designers' and creators' dialogue:

1. What will be the new norm of tourism?
2. How can design support achieving the new norm of tourism?
3. How can we design future-proof products in today's analog and digital worlds?
4. How can we create a sustainable product?
5. What types of products and services are there consumer demand for?
6. How can the new norm of tourism serve consumer needs?

The final research question was distilled as a synthesis of the above general questions:

How can sustainable product design and development support the prosperity of different tourism products in the new normal?

Sub-question used for qualitative research:

Q1: What are the important aspects of digital and analog lifestyles?

Sub-question used in DIS:CO product development process:

Q2: How can the aspired value (derived from Q1) manifest through a product concept?

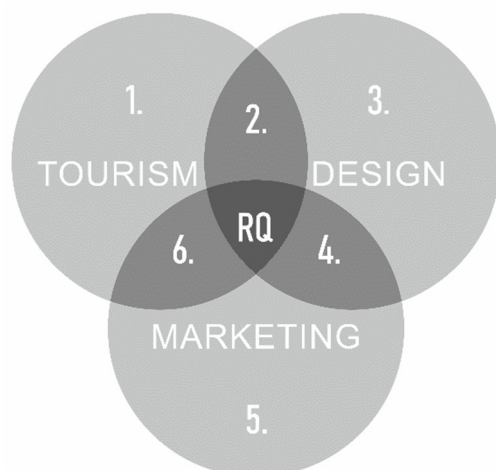


Figure 1. Mapping the overlapping interdisciplinary fields of tourism, design, and marketing. Source: author’s own editing.

3.3. Research Strategy

For the exploration of the research question we formulated, we established a research plan that utilised several qualitative procedures and was multimethodological according to the definition of Morse (2003) [61] (Figure 2). It can be said that such an investigation was the combination of different methodologies, which in this case were qualitative. Thus, according to Harrison and Reilly (2011) [62], our work can be considered a multi-method integrative research project. It can be defined as a triangulated research model due to the involvement of several researchers and the various methods utilised [63].

The utilisation of a qualitative strategy is suited to understanding the interpretations of participants and can be used to explore the creation of meaning related to the phenomena. During qualitative research, the researcher observes the phenomena of the world in their natural environment and attempts to understand them based on the meanings that people assign to them [64].

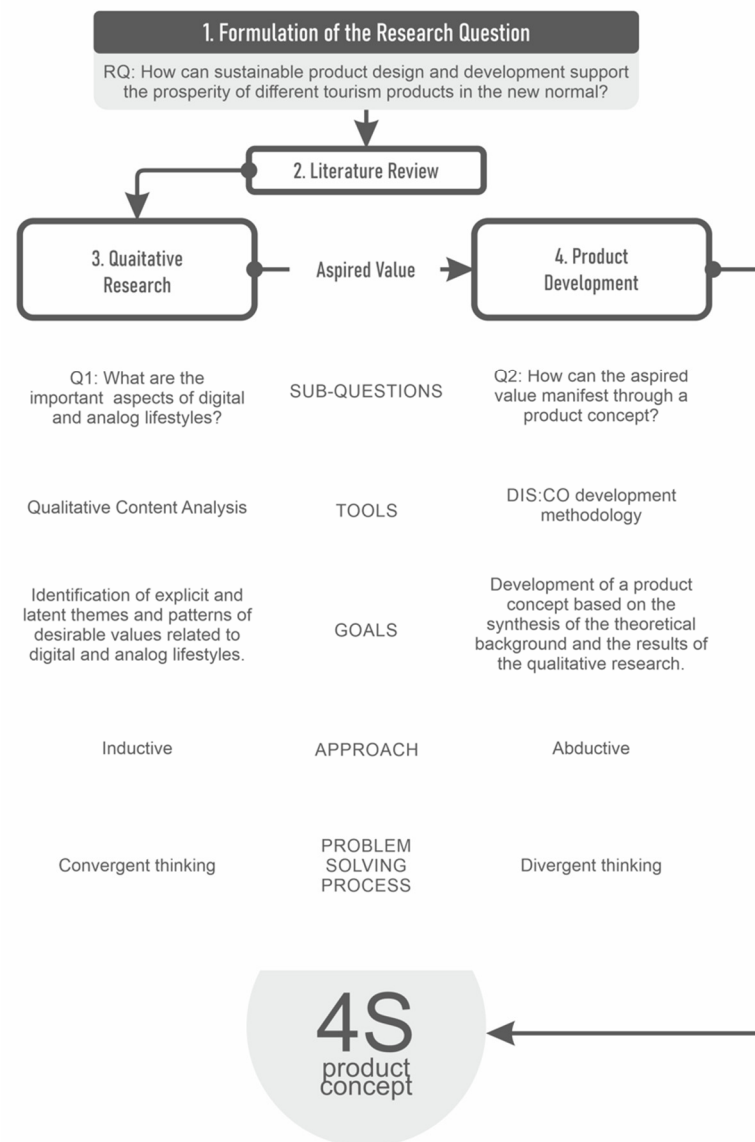


Figure 2. Research design. Source: author’s own editing.

3.4. Data Collection and the Characteristics of the Sample

Our qualitative research was conducted on the basis of essays titled “Digital past, analog future” written by our respondents. The collection of the data that formed the basis for the study began before the pandemic, in 2018, and 150 essays were processed by September 2021. The data were derived from the essays of 1–2 pages of higher education students aged 20–25, written either in Hungarian or in English, either typed or handwritten. Due to the transformation of the socioeconomic environment induced by the pandemic, new opportunities arose for utilising our already existing sample. We analysed 100 essays from the pre-pandemic era and 50 from the period between 2020 and the end of data collection. In recent years, the subject of digitalisation has gained heightened relevance worldwide at virtually all levels of the operation of societies. Thus, the sample units of one of our research projects related to analog and digital product creation that was launched before COVID-19 has also been included in this research. As we had data both from before and during the pandemic, we had the opportunity to observe the changes in data patterns between these two periods. After the disclosure of the findings, we highlighted the phenomena that emphasised this change.

3.5. Analysis Phase—QCA

We analysed the data collected during our primary research through qualitative content analysis. The nature of the investigation was inductive, that is, the researcher started from the data and progressed upwards, and any theories were only guidelines. Researchers looked for, organised, and elevated to a more abstract level any patterns, categories, or themes observable in the empirical data. Qualitative content analysis (QCA) is a systematic analytical procedure. Its aim is to let us draw consequences regarding the patterns that are present in the text. This analytical method can be utilised for uncovering subjective interpretations through the identification and coding of themes and patterns found in the data [65]. According to Mayring (2000) [66], it can be said that during the utilisation of the QCA method, texts are analysed within the context of communication, and following pre-determined steps. These steps can be summarised as follows (Figure 3):

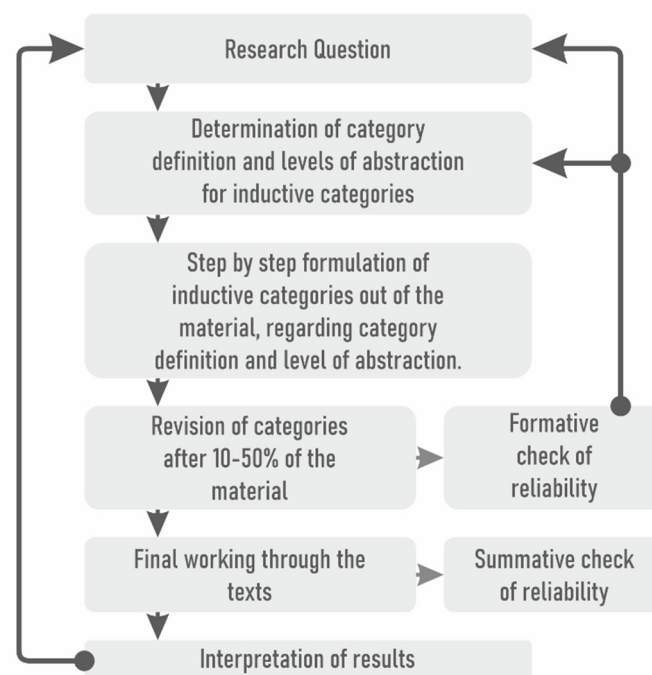


Figure 3. Steps of systematic qualitative content analysis. Source: author’s own editing based on [66].

The QCA process is fixed. Raw data are categorised by themes that can be discovered based on patterns observed during the interpretation of the data, and on the basis of the relations between these patterns. Thus, the essence of the inductive analytical process is the careful investigation and continuous comparison of the data by the researcher [67]. As it can be seen in Figure 3, a qualitative content analysis goes beyond the level of words. It relies on the observation of themes and patterns to bring to the surface any explicit and latent content that is hidden in the text. This way, the social reality related to the phenomenon can be extracted in a subjective yet scientific way [65].

The data are coded and analysed manually and in an analog way. During the interpretation of the results, that is, the formulation of the aspired value, interim findings that were conflicted due to the differing outcomes of the three coders were consensually reduced to factors that were relevant for answering Q1. As an interpretation of the most relevant themes and patterns derived this way, the aspired value that formed the basis of the product concept was defined, and this was transformed into a product concept through the DIS:CO development framework.

3.6. Development Phase—DIS:CO Development Framework

Designcommunication (DIS:CO) is an approach and practice for designers and creators. Cosovan (2009) [12] refers to it as a philosophy that manifests through theory and practice.

The term is a compound word, in which design is understood as artistic design, creative design, and creative behaviour, while communication is understood as the designer's and creator's creative connection to building intent. The term is a patented expression and procedure. The method, originally distilled from the experiences of design art practice, has contributed to the creation of numerous internationally recognised products, such as the Red Dot Design Award-winning DSI Salt Inhaler, Teqball, Coco Dice, and Nosiboo products [68–71]. DIS:CO, beyond being a contemporary alternative to the widely known concept of Design Thinking [11], is also excellent for scientific research and for developing social and economic innovation [72]. Galla (2021) [73] and Horváth et al. (2018) [74] successfully utilised the method in secondary and university education and research. The utilisation of the method is justified by the fact that DIS:CO is a holistic framework in which the designer's toolkit is built upon the criteria of human needs, technological possibilities, and business success during the development of a creative product or procedure [11] (p. 233). Its most relevant element for the purposes of this study is the three-fold system of relations that can be described the following way (Figure 4):

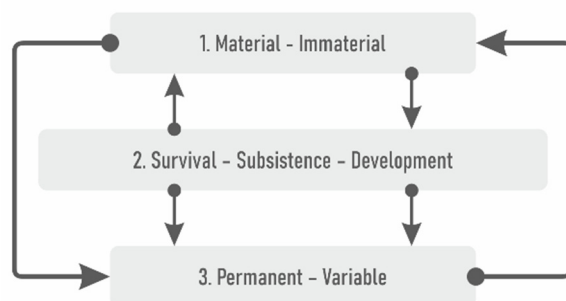


Figure 4. Cornerstones of DIS:CO research and development method. Source: author's own editing based on [12,16,17,70].

During the ritual of designing, the sequential development process of the listed dimensions is carried out in an unfixed order, in an iterative way: investigation of (1) Material–Immaterial qualities, the assessment of how (2) Survival–Subsistence–Development aspects emerge in the phenomenon, and the examination of (3) Permanent–Variable elements. This way, during the design phase, our research findings manifested in the form of a theoretical product concept, providing a basis for practical value creation as well.

4. Discussion

4.1. Findings of the Qualitative Research

We deemed the findings of our research (starting in 2018 and still ongoing) relevant for the formation of our concept. This longitudinal research provides an opportunity for the parallel investigation of pre-COVID-19 and post-COVID-19 results. However, a comparative analysis was not among the goals of the study. We considered the number of mentions and the frequency-of-mention throughout the whole sample, the direct interpretations of the statements of respondents, and the connections of themes observed in the text for the determination of the weight of particular themes, which increased with time. The following are the relevant themes and patterns identified this way, originally from the pre-COVID-19 era but also appearing in the post-COVID-19 era: (1) a rise in analog experience-seeking, (2) the recognition of the importance of in-person contact, (3) a lack of analog knowledge transfer and value creation, (4) the complementary role of digitalisation, (5) the connection between virtuality and separation, (6) topics related to a sustainable community lifestyle.

The definition of the meaning ranges of themes and a few illustrative examples (see Figure 5):

1. Analog experience-seeking: collecting experiences that require mobility, are real-time and are gained in a physical environment. Examples: 14, 7;

2. In-person contact: the reinforcement of personal relationships and the establishment of new ones in real-time and in a physical environment. Examples: 2, 81;
3. Analog knowledge transfer and value creation: the sharing of one's knowledge and experience with no transfer medium between individuals. Examples: 23, 112;
4. The complementary role of digitalisation: digital solutions support the acquisition of and the immersion in in-person experiences, but they cannot replace them. Examples: 56, 14, 99;
5. The connection between virtuality and separation: digital communication platforms can only alleviate the experience of physical distance partially, the quality of relationships changes. Examples: 56, 7;
6. A sustainable community lifestyle: the consideration of the wellbeing and sociocultural values of interrelated groups. Examples: 24, 114



Figure 5. Text-based examples to illustrate the identified themes. Source: author's own editing.

Based on the findings of the qualitative analysis and as a summary of these, the aspired value (the input of the next phase of our research) was determined. During the fourth phase of the research, the DIS:CO product development process, we aimed to create this aspired value through an open problem-solving strategy. As Dorst (2011) [75] (p. 524) describes the development process, "*we have to create a 'working principle' and a 'thing' (product, service, system) in parallel*" that can help create the aspired value we are looking for. We define the aspired value the following way: *Instead of virtual experiences, analog, in-person experiences are desired. Digitalisation should play a complementary role besides an analog (offline) lifestyle, supporting analog experiences.* In our experience-seeking society, besides the safety-related aspect of digital solutions, their role in the acquisition of desired in-person experiences is also particularly valued. Based on the results of this research phase, we were able to shape our concept in the product development phase described below.

4.2. Results of Product Development

The central element of our product development idea was adopted from extended analysis of our previous product concept [10,18]. Keeping with the bridge allegory used in B-bridge, the designer's connection building was built upon the identification of the pillars. Our goal was to integrate the words in the Safe–Secure–Smart tagline as product attributes, surrounded by the holistic approach of sustainability, and this is how the idea of an innovative product that supports tourism emerged. The result of our sequentially progressing research and theoretical creative process was the 4S concept. While it includes the dimensions of environmental and economical sustainability, our product is predominantly built on the idea of community wellbeing and value creation facilitated by sociocultural sustainability.

4.2.1. Safe–Secure–Smart–Sustainable: The Concept of 4S Travelling

The fight against the COVID-19 pandemic is proving to be successful, with vaccinations being utilised worldwide. As a result, tourism, one of the most important strategic sectors, has been able to resume. However, new waves of the pandemic caused by new variants make returning to the pre-COVID-19 state of affairs difficult. It is uncertain if we will ever be able to fully overcome this pandemic. There is also the risk of a global outbreak of another similar virus, which could repeatedly impede the operation of the economy. The current situation requires the introduction of new solutions and new tools and demands that we review and innovatively rethink our existing toolkit. The goal is to create a method, environment, and community lifestyle that is safe for everyone involved and that allows for a sustainable and continuous operation while curbing the spread of the virus. One of the keywords for this endeavour is contactless. As a response, based on our previously created B-bridge concept, we wish to develop a new tool concept that would facilitate fully contactless getting around for tourists of all types with any motivation behind their visit. The device stores data in the central application. These can be shared with a third party, and are part of an authentication protocol that may enable smooth entry to airports, transport vehicles, conferences, and other types of events that have potentially high numbers of visitors and therefore where the risk of infection is consequently higher. Additional data, such as previous illnesses or vaccination status can be added to the data package through an authentication process. The emergence of wireless technologies and the evolution of sensors worn on the human body have paved the way for customisable, wearable health devices. The control systems worn on the wrist continuously provide physiological data and information about the general state of health of the individual. Systems that monitor vital signs reduce health-related costs and improve the quality of life by preventing disease [76].

Tourists can actively use the device in a given destination; it offers various services and a wide range of information through an application. The device supports travel planning and management in its active mode and evokes travel craving in its passive status. The data generated during its use provide essential information for marketing and tourism researchers, and also contribute greatly to the mapping of unconventional tourism. The primary areas in which the product can be particularly helpful are the following: transport, public transport, cultural events, shopping, etc.

4.2.2. Description of the Device

The services and basic toolkit of the device we designed are identical to those of the product we created for the B-bridge concept, with the difference that it includes an additional sensor. This is an analog thermometer that is able to measure body temperature with precision. In the original concept, the device was fixed onto a bracelet, but it could also be fastened to the strap of an existing smartwatch. Utilising available technologies, heart rate values that may foreshadow certain illnesses can be detected on the wrist as well. An example of this is heart rate changes that occur during a state of rest, namely, heart rate variability (HRV). Through its measurement and the averaging of the results,

certain illnesses can be reliably predicted before the onset of symptoms. COVID-19 is one of these illnesses. In this stage, patients, although unaware of their condition, are already able to transmit the disease. Consequently, our device may play a role in combatting and preventing COVID-19 and other viral infections. Through storing the data processed by the device in an anonymous system and where it undergoes further processing, information can be gained about the infection level of a particular location or event, which is useful for users and organisers alike.

A large quantity of personal data is generated through the use of the device, which would be treated as sensitive data, in accordance with moral and security requirements. Stakeholders would be provided the necessary information about this, and accept the terms before they started using the device. The more versatile the available data the more efficient the operation of the system. We established two categories for the incoming and processed data: the first for the so-called anonymous data that ensure the operation of community services, the other category for detailed personal data. These are required, among other things, for organising medical care if needed and potentially for other forms of assistance or position detection. These data would not be public and would only be disclosed to the relevant authorities, with the consent of the user, and may only be utilised in an emergency or if immediate medical care was needed [77].

A worldwide pandemic that induces lockdowns affects human relationships, both on a personal and a community level. Becoming better equipped for managing or preventing a global pandemic requires the cooperation of multiple scientific fields, which can be assisted by digitalisation. We need to collaborate to reach our goal: we need to create a digital environment in which all parties feel comfortable and safe. Ethical and reliable data management is a part of this. We need to make use of the advances of digitalisation in order to be able to retain our analog values.

4.2.3. The Use of the Device in Tourism

The device we designed has the potential to make all touristic segments safer. The possibilities of its practical use will be presented through two theoretical examples. The meetings industry is one of the sectors that suffered severe damages due to the COVID-19 pandemic, and its fast revitalisation is key for the national economy. Each of the themes identified through our qualitative research is present in the field of business events; thus, this area is optimal for illustrating the practical application of the device. We have chosen youth tourism for the other tourism product because the pandemic has also affected the education plans of students in international higher education. Student mobility induces beneficial economic and sociocultural processes in host countries, and therefore supporting this mobility is important.

Theoretical example 1 (tourism product 1): Events contribute to the evolution of tourism and to the economic growth of destinations considerably [78]. The meetings industry, the fastest growing branch of tourism, has been affected by the dramatic changes that occurred in the wake of the sudden outbreak of the COVID-19 pandemic. To comply with the regulations set out by governments, huge numbers of events were cancelled or postponed [23,79], as in the case of the Tokyo Olympics. The strict travel restrictions also affected cultural, business, sports, and mega-events [23], while individual business travel has remained permitted throughout the pandemic. In-person business events could not be held for a long period of time. Subsequently, they could only be held with tight restrictions and some business events were transferred to virtual platforms. With regard to virtual events, both speakers and participants expressed that they missed in-person interactions. The device designed by us is excellent for supporting the participation of business travellers in business events, such as conferences and conventions, because it informs its wearer about their state of health even before the start of the trip, and in the case of illness, the user can connect to the event online, reducing their own and their employer's costs as well as the risk of transmitting any diseases. Beyond the monitoring of the state of health, the device also supports business travellers through additional information and contact

options: the application provides travel-related information (such as the entry regulations of different countries, transport, and accommodation-related information), and it can also be used to contact the organisers of an event. Users can activate the device in their own homes (1st activation point) or at the airport (2nd activation point), and it functions as an active smart device throughout their journey (Figure 6). The device is also fitted with a QR code scanner that facilitates contactless check-in into any event, accommodation, or other activity and, if approved, all data are registered in the system. The application helps with navigation, keeping to schedules, and organising transport if needed, while keeping health safety the highest priority. If the device detects signs of illness during the trip, it notifies the user discreetly and instructs them about the next steps. The user can make the decision whether to share that information and with whom. The application helps organise medical care if needed or navigates the user to the nearest testing centre in the given destination.

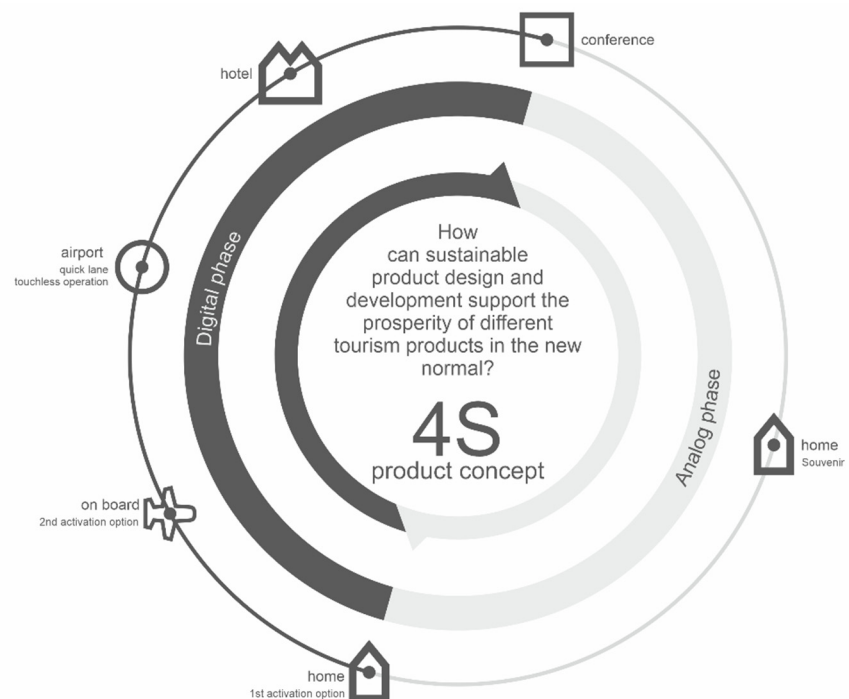


Figure 6. Theoretical example: product use by conference participants. Source: authors' own editing.

Theoretical example 2 (tourism product 2): Youth tourism (with special attention to students in education) plays a prominent role in all big cities [80]. The international mobility of students has grown continuously in recent years; however, this segment has not been left unaffected by the COVID-19 pandemic either [81]. In-person education has been replaced by online learning, especially in the case of universities [82]. Although certain studies [83,84] have found that students, following the initial shock, have adapted to the situation and have even discovered the advantages of online education, a combination of in-person and online education is a more favourable scenario for them [82]. As a result of the changes, many students have adjusted their international education plans [81]. The device designed for students, beyond strengthening their trust in the host country, provides them with practical help in transport, studying, administration, and navigation. Students receive and activate the device in their own homes (activation point), this way it can support them even before and during their travel. The device continuously monitors the student's state of health, and in the case of illness (high body temperature is the most frequent sign of infectious diseases), it notifies them, informs them about the next steps to be taken, and also supports them in connecting to the host country's online education systems. This device is not only useful for international students but can be made available to all students in order to ensure successful operation. This device can replace multiple

devices, as it is capable of storing data and managing bidirectional data traffic. The device facilitates contactless identification and communication efficiently; thus, it can replace student ID cards and library passes (among other things) and frees the parties involved from unnecessary physical contact.

5. Conclusions and Implications

This paper has been written based on a non-conventional research and design approach since qualitative marketing research tools have been utilised and combined through the product development process completed within a DIS:CO framework. In our previous research projects, using explorative research tools, we aimed to identify analog values; the lack of these analog experiences is difficult to manage even for individuals entirely socialised in a digitalised world. Through the coding and analysis of essays written by individuals aged 20–25, in addition to numerous retrograde objects and concepts, we saw the emergence of a concept that appeared with high frequency both in the case of digitalisation-oriented individuals and analog-oriented individuals. This concept was the importance of personal relationships. Human beings are predominantly analog social beings that need in-person contact [85]; the natural penetration of digitalisation had already overshadowed real, in-person personal relationships, and then an even more intensive use of digital devices following the outbreak of the COVID-19 pandemic further widened the distance between members of various groups. The relevance of our project is supported by these findings. It is in the interest of communities to regain the same collective standard of living that we had previously. Our project can also serve this cause, because if the goal is reached, it can facilitate safe community coexistence through minimal compromise, contributing to the general wellbeing of the community and to the stability of tourism—the investigated sector.

Beyond the basic concept, with its extended range of services, this device can also be utilised in tourism segments other than the two theoretical examples discussed, such as health tourism, cultural tourism, sports tourism, and shopping tourism, because cross-border shopping plays an important role in the Hungarian economy [86]. The device facilitates and simplifies entry into countries, transport planning, checking in into accommodation facilities, entering and participating in cultural and business events, and in the case of an emergency, the provision of healthcare.

During the development process, we prioritised staying rooted in the three dimensions of sustainability [48]. During the conception of the device, we defined characteristics that contributed to its sustainability. Its modular layout, the utilisation of durable materials, the high quality of manufacturing, and its reusability guarantee an increased lifespan. The purpose of this is a reduction in its ecological footprint. If new generations of the product will be created during future developments, those will be compatible with previous versions wherever possible.

COVID-19 has awakened humanity to the fragility of the social life and lifestyle of our society. At the same time, the fight against it will hopefully be successful, and we can soon restore our lifestyle and quality of life to its previous level. However, no one can guarantee that another pandemic will not break out. Our product can assist not only problem solving, but prevention as well, hence contributing to sustainability.

6. Limitations and Future Research

Due to the interdisciplinary nature of the presented process that combines research and development, it carries more risks than studies that utilise conventional procedures. We can identify certain limitations, and if they are addressed, other research projects combining similar procedures, or even a possible continuation to this study, can yield better reliability and utility. In conclusion, we wish to highlight three factors that we have identified as limitations.

The first one is connected to qualitative research. As for the production of the sample, the age of respondents remained within a narrow range relative to the whole of the

population; thus, the results gained in this phase provide an insight into the investigated phenomenon only from the perspective of a specific generation. Respondents became acquainted with digital technologies that entered their lives at approximately the same age and through similar socialisation processes. Thus, the significance of these and the attitudes towards them, while being somewhat varied, were presumably homogenous in comparison to the potential consumer segment of the product concept formulated during the design phase. The inclusion of other age groups and subjects, with more varied attitudes towards digitalisation, could contribute to the extension of the 4S concept to a broader audience.

The second potential research direction would be the adjustment of the details of the concept to specific market demands. Throughout the study, we successfully combined knowledge of tourism, a marketing-oriented research approach, and a designer's toolkit, since our primary goal was interdisciplinary value creation. However, a marketing-oriented review of the findings may reveal the fact that although the product concept we have formulated marginally explores the physical evidence and process dimensions of the marketing mix, the currently most developed concept of the product may need to be further supplemented, so that it can constitute a truly marketable product that is created according to scientific standards and supported by research. During the development of the whole of the marketing mix, specific target-market-related market research findings should also be utilised. Such information was not yet available to us in this phase, as the 4S product concept currently only exists in theory.

One of the important novelties the product carries is the interdisciplinary nature of the process through which it was created. Moreover, a noteworthy element is that the topics of tourism services and travel safety occur concurrently in the development of a wearable product. As an experimental approach, it is an interesting finding and useful starting point for value-centred product design and product development. However, to reach the level of social innovation, and to provide a basis for future research, it needs to manifest in a material form. A third future research direction would be the manufacturing of the prototype, the minimum viable product level production and post-production testing of complementary services and conducting research with the involvement of users.

Author Contributions: G.M., K.B. and B.F. contributed substantially to conducting the research and drafting this manuscript. The data for the qualitative research is sourced from the contribution of the first author. All authors have read and agreed to the published version of the manuscript.

Funding: The dissemination of research outcomes was in part supported by The Hungarian Tourism Association Foundation (MTSZ). We are grateful to the Sándor Imre Foundation of Marketing Communications to support our article's English translation.

Institutional Review Board Statement: Ethical review and approval were waived for this study due to the inquiry was conducted in accordance with the educational framework of Marketing-, Media, and Designcommunication Department of Corvinus University Budapest.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Miettinen, S. *Designing the Creative Tourism Experience*; University of Art and Design Helsinki: Helsinki, Finland, 2007.
2. Stickdorn, M. Service Design in Tourism. In *Designing Services with Innovative Methods*; Miettinen, S., Koivisto, M., Eds.; Taik Publications: Helsinki, Finland, 2009.
3. Tussyadiah, I.P. Toward a Theoretical Foundation for Experience Design in Tourism. *J. Travel Res.* **2013**, *53*, 543–564. [CrossRef]
4. Johnson, S.; Boone, P. From Lockdown to Locked in, Here's What Post-Pandemic Travel Could Look Like. 2020. Available online: <https://www.weforum.org/agenda/2020/05/coronavirus-lockdown-travel-tourism/> (accessed on 22 January 2022).
5. United Nations World Tourism Organization (UNWTO). Impact Assessment of the COVID-19 Outbreak on International Tourism. 2020. Available online: <https://www.unwto.org/impact-assessment-of-the-covid-19-outbreak-on-international-tourism> (accessed on 22 January 2022).
6. De Vos, J. Transportation Research Interdisciplinary Perspectives The effect of COVID-19 and subsequent social distancing on travel behavior. *Transp. Res. Interdiscip. Perspect.* **2020**, *5*, 100121. [CrossRef] [PubMed]

7. Irimiás, A.; Michalkó, G. Hosting while being hosted: A perspective of Hungarian migrant hospitality workers in London, UK. *Tour. Hosp. Res.* **2016**, *16*, 172–183. [[CrossRef](#)]
8. Mitev, A.; Irimiás, A. Travel Craving. *Ann. Tour. Res.* **2020**, *90*, 103111. [[CrossRef](#)] [[PubMed](#)]
9. Freire-Gibb, L.C.; Lorentzen, A. A platform for local entrepreneurship: The case of the lighting festival of Frederikshavn. *Local Econ.* **2011**, *26*, 157–169. [[CrossRef](#)]
10. Megyeri, G.; Boros, K.; Fekete, B. Hidakból teremtett emlékek, avagy kísérlet egy innovatív tárgy megalkotására a B-bridge koncepción keresztül. *Tur. Bull.* **2020**, *20*, 4–12. [[CrossRef](#)]
11. Cosovan, A.; Horváth, D.; Mitev Ariel, Z. A designkommunikáció antropológiai megközelítése. *Replika* **2018**, *106*, 233–245. [[CrossRef](#)]
12. Cosovan, A.; (DISCO). Co&Co Communication, 2009.
13. Zieliński, G.; Studzińska, M. Application of design-thinking models to improve the quality of tourism services. *Zarządzanie I Finans. J. Manag. Financ.* **2015**, *13*, 133–145.
14. Robbins, P.; Devitt, F. Collaboration, creativity and entrepreneurship in tourism: A case study of how design thinking created a cultural cluster in Dublin. *Int. J. Entrep. Innov. Manag.* **2017**, *21*, 185–211.
15. Sándorová, Z.; Repáňová, T.; Palenčíková, Z.; Beták, N. Design thinking-A revolutionary new approach in tourism education? *J. Hosp. Leis. Sport Tour. Educ.* **2020**, *26*, 100238. [[CrossRef](#)]
16. Cosovan, A. VY. *Vez.-Bp. Manag. Rev.* **2017**, *48*, 4–5. [[CrossRef](#)]
17. Cosovan, A.; Horváth, D. Emóció-Ráció: Tervezés-Vezetés: Designkommunikáció. *Vez.-Bp. Manag. Rev.* **2016**, *47*, 36–45. [[CrossRef](#)]
18. Megyeri, G.; Boros, K.; Fekete, B. 3S Traveling–Turizmus a poszt-COVID19 érában. *Tur. Bull.* **2021**, *21*, 52–62. [[CrossRef](#)]
19. Hall, C.M.; Scott, D.; Gössling, S. Pandemics, transformations and tourism: Be careful what you wish for. *Tour. Geogr.* **2020**, *22*, 577–598. [[CrossRef](#)]
20. Li, Z.; Zhang, S.; Liu, X.; Kozak, M.; Wen, J. Seeing the invisible hand: Underlying effects of COVID-19 on tourists’ behavioral patterns. *J. Destin. Mark. Manag.* **2020**, *18*, 100502. [[CrossRef](#)]
21. Bieger, T.; Laesser, C. *The Future of Tourism with and Potentially After SARSCoV-2: Continuous Small Steps and Drawbacks towards a Temporary New “Normal”*; AIEST: St Gallen, Switzerland, 2020.
22. Dupeyras, A.; Haxton, P.; Stacey, J. *The Covid-19 Crisis and Tourism: Response and Recovery Measures to Support the Tourism Sector in OECD Countries*; OECD, G20 Policy Insights: Paris, France, 2020.
23. Gössling, S.; Scott, D.; Hall, C.M. Pandemics, tourism and global change: A rapid assessment of COVID-19. *J. Sustain. Tour.* **2021**, *29*, 1–20. [[CrossRef](#)]
24. Rogerson, C.M.; Baum, T. COVID-19 and African tourism research agendas. *Dev. South. Afr.* **2020**, *37*, 727–741. [[CrossRef](#)]
25. Zatori, A.; Michalkó, G.; Nagy, J.T.; Kulcsár, N.; Balizs, D. The tourist experience of domestic VFR travellers: The case of Hungary. *Curr. Issues Tour.* **2019**, *22*, 1437–1459. [[CrossRef](#)]
26. Steen Jacobsen, J.K.; Farstad, E.; Higham, J.; Hopkins, D.; Landa-Mata, I. Travel discontinuities, enforced holidaying-at-home and alternative leisure travel futures after COVID-19. *Tour. Geogr.* **2021**. [[CrossRef](#)]
27. Weman-Josefsson, K. Perspectives of Life in Sweden During the COVID-19 Pandemic. *J. Clin. Sport Psychol.* **2021**, *15*, 80–86. [[CrossRef](#)]
28. Alvarez-Sousa, A.; Paniza Prados, J.L. Visitor Management in World Heritage Destinations before and after Covid-19, Angkor. *Sustainability* **2020**, *12*, 9929. [[CrossRef](#)]
29. Clair, A. Homes, Health, and COVID-19: How Poor Housing Adds to the Hardship of the Coronavirus Crisis. Social Market Foundation. 2020. Available online: https://www.smf.co.uk/commentary_podcasts/homes-health-and-covid-19-how-poor-housing-adds-to-the-hardship-of-the-coronavirus-crisis/ (accessed on 26 September 2021).
30. Crompton, J.L. Motivations for pleasure vacation. *Ann. Tour. Res.* **1979**, *6*, 408–424. [[CrossRef](#)]
31. Guo, X.; Sun, Z. A Novel Evaluation Approach for Tourist Choice of Destination Based on Grey Relation Analysis. *Sci. Program.* **2016**, 1812094. [[CrossRef](#)]
32. Hsu, T.-K.; Tsai, Y.-F.; Wu, H.-H. The preference analysis for tourist choice of destination: A case study of Taiwan. *Tour. Manag.* **2009**, *30*, 288–297. [[CrossRef](#)]
33. Li, Y.; Song, H.; Guo, R. A Study on the Causal Process of Virtual Reality Tourism and Its Attributes in Terms of Their Effects on Subjective Well-Being during COVID-19. *Int. J. Environ. Res. Public Health* **2021**, *18*, 1019. [[CrossRef](#)]
34. Choi, Y.; Hickerson, B.; Lee, J. Investigation of the technology effects of online travel media on virtual travel experience and behavioral intention. *J. Travel Tour. Mark.* **2018**, *35*, 320–335. [[CrossRef](#)]
35. Shokouhyar, S.; Shokouhyar, S.; Sobhani, A.; Gorizi, A.J. Shared mobility in post-COVID era: New challenges and opportunities. *Sustain. Cities Soc.* **2021**, *67*, 102714. [[CrossRef](#)]
36. Sultan, M.-T.; Sharmin, F.; Badulescu, A.; Stiubea, E.; Xue, K. Travelers’ Responsible Environmental Behavior towards Sustainable Coastal Tourism: An Empirical Investigation on Social Media User-Generated Content. *Sustainability* **2021**, *13*, 56. [[CrossRef](#)]
37. Roman, M.; Kosiński, R.; Bhatta, K.; Niedziółka, A.; Krasnodebski, A. Virtual and Space Tourism as New Trends in Travelling at the Time of the COVID-19 Pandemic. *Sustainability* **2022**, *14*, 628. [[CrossRef](#)]
38. Milgram, P.; Kishino, F. A taxonomy of mixed reality visual displays. *IEICE Trans. Inf. Syst.* **1994**, *77*, 1321–1329.

39. Kounavis, C.D.; Kasimati, A.E.; Zamani, E.D. Enhancing the tourism experience through mobile augmented reality: Challenges and prospects. *Int. J. Eng. Bus. Manag.* **2012**, *4*, 10. [CrossRef]
40. Hutchins, B.; Andrejevic, M. Olympian Surveillance: Sports Stadiums and the Normalization of Biometric Monitoring. *Int. J. Commun.* **2021**, *15*, 363–382.
41. FIPRA. Despite Devastating Blow, COVID-19 Gives Tourism Industry A Chance to Redeem Itself. 2020. Available online: <https://fipra.com/update/despite-devastating-blow-covid19-gives-tourism-industry-a-chance-to-redeem-itself/> (accessed on 28 March 2021).
42. Rahimzhan, S.; Irani, F. Contactless hospitality in a post-COVID-19 world. *Int. Hosp. Rev.* **2021**, *35*, 293–304. [CrossRef]
43. Kuklina, M.; Trufanov, A.; Krasnoshtanova, N.; Urazova, N.; Kobylkin, D.; Bogatyreva, M. Prospects for the Development of Sustainable Tourism in the Okinsky District of the Republic of Buryatia. *Sustainability* **2021**, *13*, 8042. [CrossRef]
44. World Commission on Environment and Development (WCED). *Our Common Future*; Oxford University Press: New York, NY, USA, 1987.
45. Buckley, R. Sustainable tourism: Research and reality. *Ann. Tour. Res.* **2012**, *39*, 528–546. [CrossRef]
46. Iniesta-Bonillo, M.A.; Sánchez-Fernández, R.; Jiménez-Castillo, D. Sustainability, value, and satisfaction: Model testing and cross-validation in tourist destinations. *J. Bus. Res.* **2016**, *69*, 5002–5007. [CrossRef]
47. Ko, T.G. Development of a tourism sustainability assessment procedure: A conceptual approach. *Tour. Manag.* **2005**, *26*, 431–445. [CrossRef]
48. Solís-Radilla, M.M.; Hernández-Lobato, L.; Pastor-Durán, H. The importance of sustainability in the loyalty to a tourist destination through the management of expectations and experiences. *Sustainability* **2019**, *11*, 4132. [CrossRef]
49. Rahmoun, M.; Baeshen, Y. Marketing tourism in the digital era and determinants of success factors influencing tourist destinations preferences. *Asia-Pac. Manag. Account. J.* **2020**, *16*, 163–181. [CrossRef]
50. Rodríguez-Díaz, M.; Espino-Rodríguez, T. Determining the sustainability factors and performance of a tourism destination from the stakeholders' perspective. *Sustainability* **2016**, *8*, 951. [CrossRef]
51. Gössling, S.; Peeters, P. Assessing tourism's global environmental impact 1900–2050. *J. Sustain. Tour.* **2015**, *23*, 639–659. [CrossRef]
52. Veiga, C.; Santos, M.C.; Águas, P.; Santos, J.A.C. Sustainability as a key driver to address challenges. *Worldw. Hosp. Tour. Themes* **2018**, *10*, 662–673. [CrossRef]
53. Hanafiah, M.H.; Zulkifly, M.I. Tourism destination competitiveness and tourism performance: A secondary data approach. *Compet. Rev.* **2019**, *29*, 592–621. [CrossRef]
54. Kamel, N. Examining the mediating role of celebrity endorsement in green advertisements to improve the intention of Egyptian Millennials towards environmental behaviours in tourist destinations. *Tour. Manag. Stud.* **2020**, *16*, 7–21. [CrossRef]
55. Hediger, W. Sustainable development and social welfare. *Ecol. Econ.* **2000**, *32*, 481–492. [CrossRef]
56. Clark, G.; Kosoris, J.; Hong, L.N.; Crul, M. Design for sustainability: Current trends in sustainable product design and development. *Sustainability* **2009**, *1*, 409–424. [CrossRef]
57. Karlsson, R.; Luttrupp, C. EcoDesign: What's happening? An overview of the subject area of EcoDesign and of the papers in this special issue. *J. Clean. Prod.* **2006**, *14*, 1291–1298. [CrossRef]
58. Santos, M.C.; Veiga, C.; Santos, J.A.C.; Águas, P. Sustainability as a success factor for tourism destinations: A systematic literature review. *Worldw. Hosp. Tour. Themes* **2022**. [CrossRef]
59. Geissdoerfer, M.; Savaget, P.; Bocken, N.M.; Hultink, E.J. The Circular Economy—A new sustainability paradigm? *J. Clean. Prod.* **2017**, *143*, 757–768. [CrossRef]
60. Kirchherr, J.; Reike, D.; Hekkert, M. Conceptualizing the circular economy: An analysis of 114 definitions. *Resour. Conserv. Recycl.* **2017**, *127*, 221–232. [CrossRef]
61. Morse, J.M. Principles of mixed methods and multimethod research design. In *Handbook of Mixed Methods in Social and Behavioral Research*; Tashakkori, A., Teddlie, C., Eds.; Sage Publication: Thousand Oaks, CA, USA, 2003; pp. 189–208.
62. Harrison, R.L.; Reilly, T.M. Mixed methods designs in marketing research. *Qual. Mark. Res. Int. J.* **2011**, *14*, 7–26. [CrossRef]
63. Denzin, N.K. *The Research Act*, 3rd ed.; Prentice Hall: Englewood Cliffs, NJ, USA, 1989.
64. Denzin, N.K.; Lincoln, Y.S. *Handbook of Qualitative Research*; Sage Publication: Thousand Oaks, CA, USA, 2000.
65. Zhang, Y.; Wildemuth, B.M. Qualitative analysis of content. In *Applications of Social Research Methods to Questions in Information and Library Science*; Wildemuth, B.M., Ed.; Libraries Unlimited: Westport, CT, USA, 2009; pp. 308–319.
66. Mayring, P. *Qualitative Inhaltsanalyse: Grundlagen und Techniken*, 7th ed.; Deutscher Studien Verlag: Weinheim, Germany, 2000.
67. Patton, M.Q. *Qualitative Research and Evaluation Methods*; Sage Publication: Thousand Oaks, CA, USA, 2002.
68. CO&CO; Cosovan, A. DSI-Red Dot. 2012. Available online: <https://www.red-dot.org/project/dsi-29724> (accessed on 22 January 2022).
69. CO&CO; Cosovan, A. Teqball—Red Dot. 2015. Available online: <https://www.red-dot.org/project/teqball-1-8088> (accessed on 22 January 2022).
70. CO&CO; Cosovan, A. Coco Dice—Red Dot. 2011. Available online: <https://www.red-dot.org/project/cocodice-corner-contact-game-system-28164> (accessed on 22 January 2022).
71. CO&CO; Cosovan, A. Nosiboo—Red Dot. 2014. Available online: <https://www.red-dot.org/project/nosiboo-32116> (accessed on 22 January 2022).

72. Cosovan, A.; Horváth, D. Tervező művész(ek) a közgazdászképzésben. In *EMOK XXII. OrszágosKonf.—Hitel. Értékorientáció A Mark*; Fehér, A., Kiss, V.Á., Soós, M., Szakály, Z., Eds.; Debreceni Egyetem Gazdaságtudományi Kar: Debrecen, Hungary, 2009.
73. Galla, D.D. Gyerekek. Otthon. Együttműködés. Kreativitás. A Designkommunikáció, Mint a Soft Készségek Fejlesztését Támogató Oktatásmódszertani Eszköz. Ph.D. Thesis, Corvinus University of Budapest, Budapest, Hungary, 2021. [[CrossRef](#)]
74. Horváth, D.; Cosovan, A.; Horváth, D.; Lachin, N. Tanulás-munka interface. A valós idejű találkozások jelentősége a digitális oktatási környezetben. *Vez.-Bp. Manag. Rev.* **2018**, *49*, 67–77. [[CrossRef](#)]
75. Dorst, K. The core of ‘design thinking’ and its application. *Des. Stud.* **2011**, *32*, 521–532. [[CrossRef](#)]
76. Srikrishnan, M.R.; Archana, N.; Niresh, J. The Evolution of Smart Wrist Band by Using Sensors. *Journal of Siberian Federal University. Eng. Technol.* **2020**, *13*, 525–535.
77. Prince, P.B.; Lovesum, S.P.J. Privacy Enforced Access Control Model for Secured Data Handling in Cloud-Based Pervasive Health Care System. *SN Comput. Sci.* **2020**, *1*, 239. [[CrossRef](#)]
78. Seraphin, H. COVID-19: An opportunity to review existing grounded theories in event studies. *J. Conv. Event Tour.* **2020**, *22*, 3–35. [[CrossRef](#)]
79. Ozili, P.K.; Arun, T. Spillover of COVID-19: Impact on the Global Economy. *SSRN Electron. J.* **2020**, 3562570. [[CrossRef](#)]
80. United Nations World Tourism Organization (UNWTO). *Youth Travel Matters Understanding the Global Phenomenon of Youth Travel*; World Youth Student & Educational Travel Confederation (WYSE): Madrid, Spain, 2008; ISBN 978-92-844-1239-6.
81. Mok, K.H.; Xiong, W.; Ke, G.; Cheung, J.O.W. Impact of COVID-19 pandemic on international higher education and student mobility: Student perspectives from mainland China and Hong Kong. *Int. J. Educ. Res.* **2021**, *105*, 101718. [[CrossRef](#)]
82. Jaworek, M.A. The Effects of Temper Traits and Study Method (Full-Time vs. Extramural) on Polish Students’ Adaptability to Online Learning as a Result of COVID-19. A Pilot Study. *Sustainability* **2021**, *13*, 14017. [[CrossRef](#)]
83. Bączek, M.; Zagańczyk-Bączek, M.; Szpringer, M.; Jaroszyński, A.; Woźakowska-Kapłon, B. Students’ perception of online learning during the COVID-19 pandemic. A survey study of Polish medical students. *Medicine* **2021**, *100*, e24821. [[CrossRef](#)]
84. Chakraborty, P.; Mittal, P.; Gupta, M.S.; Yadav, S. Opinion of students on online education during the COVID-19 pandemic. *Hum. Behav. Emerg. Technol.* **2020**, *3*, 357–365. [[CrossRef](#)]
85. Megyeri, G.; Horváth, D.; Cosovan, A. Analóg Lények Vagyunk Egy Digitális Világban—Avagy a Digitalizáció Következményei és Lehetőségei Kutató és Tervezői Szemszögből. In *Az Egyesület a Marketing Oktatásért és Kutatásért XXV.; Ismerjük a Vevőket? A Vásárlás Pszichológiája; Országos Konferenciájának előadása*; Veres, Z., Sasné Grósz, A., Liska, F., Eds.; Pannon Egyetem: Veszprém, Hungary, 2019; pp. 711–720. ISBN 978-615-00-58.
86. Michalkó, G.; Timothy, D.J. Cross-border shopping in Hungary: Causes and effects. *Vis. Leis. Bus.* **2001**, *20*, 4–22.