

Review

Sharing Heritage through Open Innovation—An Attempt to Apply the Concept of Open Innovation in Heritage Education and the Reconstruction of Cultural Identity

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Abstract: The topic of cultural heritage is the subject of many interdisciplinary studies. So far, these studies have focused on the issues of classifying particular types of heritage, their functions and benefits, components and determinants. However, relatively less attention was paid to the dimension of a methodical approach to education and rebuilding cultural identity through heritage. Meanwhile, generational changes, especially in the dimension of knowledge perception, indicate such a need. The aim of this article is to present the perspective of using open innovations in the transfer of cultural heritage used in shaping cultural identity and education. Our review and conceptual article is an attempt to draw attention to the problem of changes in the perception of cultural heritage by generations born in the era of the digital revolution and the need to take these changes into account in heritage education. Taking these conditions into account allowed the authors to develop a model for generating open innovation in the outside-in process and then to develop a model for making it available through the inside-out process. The role of education in this process was also emphasized.

Keywords: open innovation; cultural heritage; cultural identity; generation; heritage education; digital revolution



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1. Introduction

The turn of the 20th and 21st centuries was a period of many dynamic changes in a global nature initiated by the digital revolution [1]. These changes are also not accepted in the same way by the representatives of contemporary generations, which also increase generational differences. The adaptation of older generations brought up and growing up before the digital revolution significantly differs from the adaptation observed in younger generations [2,3]. This problem concerns not only the perception of informatization but also many areas of human functioning that may seem independent of digital technologies. This could be, for example, discovering one's own cultural identity, whether classified geographically (national, regional, local) or by belonging to a specific dispersed community (professional, religious, political). Due to deepening generational differences, the problem of maintaining cultural identity through one's own cultural heritage is becoming more and more complex and thus requires the use of modern concepts for creating and sharing innovative solutions.

The main aim of the article is to propose a perspective on creating an open innovation for the transfer of cultural heritage used in shaping cultural identity and heritage education. A coupled model of exploratory and exploitative innovation processes should take into account important conditions, which are generational differences caused by the digital revolution. Therefore, the work is an attempt to draw attention to the problem of changes in the provision of cultural heritage among representatives of generations born in the era

of the digital revolution. The point of reference is, in particular, the perspective of using open innovation in industrial heritage, especially to discover personal cultural identity.

However, in the discussion on changing the perspective of the coupled transfer of open innovations, it seems necessary to characterize the basic issues arising from the theoretical conditions of the considered cultural heritage but also the elements of strengthening cultural identity.

2. Open Innovation

Undertaking projects related to sharing cultural heritage, which is to support the discovery of personal cultural identity of representatives of different generations, must be characterized by a varied scope of innovation in organizational activities. At the same time, it seems that cultural heritage, so closely related to social values, must be based on open innovations, in which the aspect of knowledge transfer outside and inside the organization is such an important element.

The concept of open innovation, which concerns the two-way, open transfer of innovation to and from organizational entities, especially enterprises, has been a popular topic of scientific research and a process willingly implemented by enterprises for over two decades. There is clearly a continuous development of this concept in both theoretical and practical contexts [4–8]. The literature is full of scientific works on subsequent developments of this concept and its applications; therefore, it seems trivial to constantly repeat the idea that accompanied its creation. This is also the reason why this literature review in this field will be limited to the latest scientific works on this topic—generally published in recent years. However, it is worth starting by summarizing the main idea of this concept.

The contemporary view of the concept of open innovation is aptly summarized by J.J. Yun et al. [9], indicating three archetypes of processes occurring within open innovation. The first is an outside-in process type, which explores external knowledge (then innovation is initiated inside the company). The second is the inside-out process type, which exploits innovation inside the company (then innovation is generated outside the company). The third archetype is the coupled process type, which pursues rear ambidextrous open innovation by joint innovation and exploitation. However, they also emphasize the basic types of exploration and exploitation, which include:

- (a) Cross-functional exploration (product → market knowledge → technology → science → technology → product–market knowledge);
- (b) Functional scientific exploitation or scientific exploration technological exploitation and technological exploration, product–market exploitation and product–market exploitation.

The original division of open innovation concerned only two directions of innovation transfer in the form of knowledge. They concerned exploitation and exploration but in recent years there has been a search for solutions to balance both of these processes. The conflict between the company's limited resources and unlimited market ambitions causes the need to seek a balance between exploratory and exploitative innovation [10]. Thanks to this, we can see further deepening of research on this problem by introducing ambidextrous innovations and even open ambidextrous innovation practices (OAIP), up to a multidexterity perspective of innovations [10].

Ambidextrous innovation refers to a company's ability to simultaneously pursue exploratory and exploitative innovations [11], while multidexterity is defined as the organization's ability to simultaneously carry out multiple activities to generate a portfolio of innovative results (cf. [12,13]). J.J. Yun et al. [9] proposed the multi-dimensional open innovation of ambidextrous open innovation with servitization. They put it in the context of the effect of the 4th Industrial Revolution on the economy.

When reviewing selected research on open innovation, it is worth mentioning the results obtained by O. Carrasco-Carvajal et al. [14]. They undertook research on open innovation in small and medium-sized enterprises. They confirm that open innovation improves company performance. Their research shows, among other things, that absorptive

capacity has a significant and positive impact on the companies' strategies and outbound innovation practices. In turn, Y. Jiang et al. [15] consider open innovation crowdsourcing as an opportunity to develop enterprise innovation. However, L. Lappalainen et al. [16] based on a literature review, identified 11 key topics that constitute the context of managing open innovation projects. These include openness, goals, partners, roles, management, control, social relations, communication, knowledge flow, tensions and results.

T. Broekhuizen et al. [17] involved artificial intelligence in their research. They asked the question—when and how can artificial intelligence be used for more complex and unstructured open innovation tasks? They list many aspects of the use of artificial intelligence, ranging from the fact that AI tools can automate tedious tasks, support managers in efficiently finding appropriate contract forms and match employees based on characteristics, experience and motives, to arguments that artificial intelligence can facilitate the process of identifying complementary resources for recombination between partners.

J. Sanabria-Z et al. [18] conducted interesting research that identifies an opportunity to develop researchers' complex thinking, leading to information openness becoming a shared responsibility of partners. As the authors argue, shared responsibility may have implications that permeate open science and open innovation theory. They precede their research with practices used for scientific progress, e.g., recommendations on opening access to data, which would improve the quality of research by increasing the reproducibility of science and its impact. Open innovation in the form of open science then becomes a way of thinking aimed at managing complexity and generating synergies between scientists and representatives of industry and government. It is this process that becomes necessary to catalyze knowledge and create social innovations.

In turn, J.B. Padilla Bejarano et al. [19] undertook continuing research on the technology transfer processes at universities. Their analysis of the state of knowledge allowed the identification of 36 open innovation factors that contribute to the implementation of technology transfer at universities. Thanks to their research, it is known that open innovations, based on the use of internal and external knowledge, stimulate the transfer of emerging knowledge from research, development, and innovation (R&D+i) by maintaining close relationships between universities and entities from regional innovation systems.

D.B. Audretsch [20] provided empirical evidence that startups benefit from open innovation but also proved that the scope of product innovation and the propensity to innovate new processes depends on the specific external partner and its geographical location.

However, implementing open innovations does not always bring benefits to the companies that introduce them. L. Cricelli et al. [21] identified ten categories of internal and external causes of open innovation implementation failure. The internal causes of failures include strategy, business organization, knowledge and intellectual property management, management and resources. However, external causes of failure concern cooperation between companies and the impact of environmental factors.

M. Shafiei and N.A. Hakaki [22] examined the casual relations among the most important effective factors on open innovations in small and medium-sized enterprises. Their research shows that economic factors, universities, research institutions, IT support and organizational strategy are considered causal factors. In turn, the factors influencing open innovation are competitors, organizational structure, organizational learning, remuneration system, ecological issues, employees, suppliers and partners. However, the organization's strategy has a single loop of causality. W.A. Srisathan et al. [23] also published research on the implementation of open innovations in small and medium-sized enterprises. Their research confirms the positive relationship between the implementation of open innovation and the advancement of ambidextrous innovation practices.

Among the analyzed scientific memoirs, there are also works that directly refer to the context of using open innovations in relation to cultural heritage and the separation of cultural identity. These are works touching on the social context of the use of open innovations. Recent literature records such applications. J.J. Yun et al. [9] noted the development of citizen innovations related to responsible governance and a cooperative

model of a 'Post-Schumpeter' Paradigm, but also social open innovation. It is the latter that combines social requirements and market innovation motivations. They strive for sustainable innovation with an overall model of a business ecosystem or a business model innovation through a rectangular compass [24]. In turn, W.A. Srisathan et al. [23] developed the topic of open eco-innovation, previously indicated by M. Pichlak and A.R. Szromek [25] and other authors. In the ecological context, they define open innovation as collaborative processes to develop environmentally sustainable solutions with diverse stakeholders, heavily relying on collaboration. This issue refers to issues related to cultural heritage because the protection of cultural heritage, especially the local (including regional) achievements of indigenous people in many destinations, is part of the sustainable development agenda. However, an important comment by J.J. Yun [26] should be taken into account. J.J. Yun emphasized that the unique historical heritage is one of the features that work as a strange trigger with certain effects on the diverse open innovation activities of a company. The specificity of cultural heritage requires presenting this issue in a little more detail.

3. Cultural Heritage

3.1. The Definition of Heritage

It is difficult to clearly define heritage, as well as other concepts in social sciences. As F. Benhamou [27] states, heritage is a social construction whose boundaries are unstable and blurred. Perhaps this argument is also an introduction to explaining the difficulties in using open innovations in the field of cultural heritage.

The Oxford English Dictionary defines heritage as "property which is or may be inherited; heritage", "valuable things, such as historic buildings, that have been passed down from generation to generation" and "referring to things of historical or cultural value that are worth preserving" [28]. Heritage is something that can be passed down from generation to generation, something that can be preserved or inherited and something that has historical or cultural value. Heritage can be understood as a physical "object": a piece of property, a building or a place that can be "owned" and "transferred" to someone else [28]. The extended definition considers heritage as intertwined forms of tangible heritage, such as buildings, monuments and works of art. But it also covers the intangible or living heritage, including folklore, cultural memories, celebrations and traditions, and natural heritage or cultural landscapes and sites of significant biodiversity [29]. It is also an extension of the definition proposed by UNESCO [30] under the Convention adopted in Paris on 16 November 1972, stating that cultural heritage is:

- Monuments, including works of architecture, sculpture, painting, archaeological elements, which are of outstanding universal value from the point of view of history, art or science;
- Groups of buildings that include buildings that, because of their architecture, homogeneity or place in the landscape, are of outstanding universal value from the point of view of history, art or science;
- Places, in the sense of works of man or of nature and man, and areas that are of Outstanding Universal Value from a historical, aesthetic, ethnological or anthropological point of view.

Speaking about heritage, it should be noted that this term is closely related to values (e.g., social, artistic, historical, scientific and spiritual) which have long been at the basis of the concept of heritage and its protection [31].

Other classifications of heritage are also described in the literature on the subject. For example, the following types of heritage can be cited: official, i.e., heritage that is legally and procedurally recognized as heritage and is entered into a register (e.g., [13]), tangible and intangible [28,29], inherent [29], natural/scientific (e.g., [32]), industrial (e.g., [33–35]), cultural (e.g., [36,37]) and digital cultural heritage (e.g., [38,39]), cultural sports [40] or agricultural [41], as well as gastronomy, as gastronomy is part of cultural heritage (e.g., [42]). Specializations of this term are also used, for example, the heritage of buildings, which is part of tangible heritage (cf. [43]).

Individual types of heritage are sometimes defined either in a narrower or broader sense. For example, industrial heritage defined more broadly includes industrial production and industrial-related construction, transport, education, services and other related industries. It also includes the related developments of new energy, new technologies and new materials that have brought about major changes in society, as well as social places involved in industrial activities, such as workers' home areas and places of worship [44]. Given the narrow sense, industrial heritage mainly refers to the industrial remains of production, processing, storage and transport, including metallurgy, coal industry and many other industrial categories and all kinds of industrial and ancillary buildings. From the perspective of the form of the object of study, industrial heritage has two forms: tangible and intangible [44].

3.2. The Concept of Cultural Identity

Cultural identity refers to a sense of solidarity with the ideals of a particular cultural group, leading to approval of its beliefs, attitudes and behaviors [45]. Cultural identity "expresses the extent to which individuals share the values and attributes of the culture from which they come. It is a specific type of collective identity that, at the psychological level, unites individuals belonging to the same social group, while at the same time distinguishing them from members of other social groups" [46].

Cultural identity is a "common personality" developed, activated and modified by social actors in the context of social and historical interactions according to specific problems that prompt them to act [47].

Analyzing the etymology of this concept, it should be noted that identity provides us with an answer to the question *who am I?* It is based on relationships with others and is characterized by the meanings that individuals assign to themselves [48]). The definition of adaptive "identity" has two components: (a) a coherent personal identity (a set of goals, values and beliefs that are internally consistent with each other); and (b) a coherent social identity (including cultural identity) [49].

In turn, the word "culture" has many more diverse definitions. It is an ambiguous concept and therefore difficult to define due to its multidimensional nature [50]). However, in the case of identity, an appropriate definition may be that taken from anthropology. Culture is defined there as "a comprehensive unit that contains knowledge, belief, art, morality, laws, customs and other abilities and habits which an individual adopts as a member of a given society" [51].

4. Discussion

Tradition and cultural heritage, as interrelated concepts, play a very important role in creating and defining identity. The struggle to maintain, protect and restore these intangible elements of cultural heritage should be seen as maintaining cultural identity [52]. However, the development of social activities, e.g., tourism activities, can have both negative (e.g., [36,53,54]) and positive impacts on maintaining cultural identity (e.g., [55]). Therefore, the issue of cultural identity and competitiveness of destinations has gained importance in research on cultural tourism and cultural heritage [56]. Clusters of culture and heritage are emerging in various countries to play a role in the development of heritage by cultural tourism. The effectiveness of such solutions depends on, among other things, their level of innovation [56]. Undoubtedly, the differences in the perception of modern technologies by successive generations make us think about another dimension of research, this time focused on intergenerational differences in both the perception of cultural heritage and reviving or building cultural identity.

4.1. Intergenerational Differences

Actively learning about cultural heritage (not necessarily your own heritage) often becomes the first step to discovering or rediscovering your personal cultural identity. Although undertaking such cognitive activity often results from curiosity about different

cultures, it is undoubtedly also closely related to the appreciation of cultural heritage [55], and what requires personal involvement may go beyond various social frameworks, including generational ones. For this reason, the challenge is not only to preserve identity but often to revive a lost identity while facing current challenges and embracing new demands and trends [57].

These challenges may undoubtedly include generational differences and especially the impact of Internet technologies on the conditions of growing up of subsequent generations. Therefore, an individual approach to discovering cultural identity in individual generations of modern societies seems to be an important issue. This topic is present in the literature in various contexts, which proves significant differences in the perception of reality by representatives of different generations. To highlight the identified intergenerational differences, the demographic classification adopted in the literature (e.g., [2,58]), which lists eight generational groups, i.e., groups of people born in a specific period of time, who are linked by specific socio-cultural conditions, has been used.

The classification characterizes individual generations starting from 1883, and among them, the first three are pre-war generations, i.e., Lost Generation (1883–1900), Greatest Generation (1901–1927) and Silent Generation (1928–1945) [59,60]. These are generations whose representatives are largely dead, which is why most research is conducted on post-war generations.

The first generational group, born shortly after WWII, i.e., in 1945–1964, is the Baby Boomers. This is the generation of the post-war population boom, among whom the main group is modern retirees but also professionally active people at the end of their careers. This makes it a socially and financially established group, focused on recreational and health goals. It can be expected that their cognitive need for the past presented by cultural heritage, and especially industrial heritage, will often be associated with memories and personal contact with places, objects or machines and devices that are currently museum exhibits. At the same time, this generation is the most distanced from the achievements of the digital revolution out of the five post-war generations, and the most related to direct interaction with another person.

The second considered generation is Generation X, whose members were born in the years 1965–1980. They are, therefore, the last generation brought up without the Internet and without mobile phones but at the same time are very entrepreneurial, with the ability to adapt to a difficult situation, which results from the difficult economic conditions of the 1980s and 1990s, in which they grew up [61]. Their attitude towards cultural heritage may result from several essential characteristics. First of all, this is a generation in which the family, and thus the intergenerational bond, is of great importance. This may mean being able to share one's own heritage with the next generation, but also passing on a commitment to a personal cultural identity to the next generation. In learning about cultural heritage, this generation may partly refer to personal memories, but rather in relation to the functioning of their parents and grandparents, rather than their own.

The third generation is Millennials, i.e., representatives of Generation Y, whose community was born between 1981 and 1994. This means that they have been shaped by the experiences of the primary processes of globalization and the digital revolution. This is a social group that tolerates multiculturalism well and often does not even imagine state or mental borders, neither in terms of access to consumer goods and services nor in mobility. Migration and communication processes do not constitute any barriers for them; therefore, their relations are less local and more often global. As the generation directly preceding the digital era, and thus brought up in its initial period, they are characterized by a great ability to undertake travel and share travel experiences online [62]. The literature shows that Generation Y is more active than previous generations, and at the same time, better organized in terms of the use of Internet tools for this purpose [63].

Generation Z is the fourth post-war generation, the beginning of which coincides with the digital revolution, as it covers the period from 1995 to 2010. The uniqueness of this generation is related to the approach to communication tools developed by the

digital approach, especially social media. It is also their main form of communication, dominating over personal interactions [58]. It can be expected that this generation will look for motivation to learn about cultural heritage in social media. It is also an important area of social research related to the innovations being introduced. This opportunity is related to travel restrictions for several reasons. One of them is the financial reason resulting from the fact that they are the youngest professionally active generation, which affects their financial possibilities. However, another reason may be the possibility of satisfying the needs in an alternative way, not requiring a trip, but only using virtual reality. The third reason, although perhaps not the least, is the desire to protect the natural environment by limiting travel.

The last generation whose members were born after 2010 is still children at the time of publishing the article. This generation was conventionally called the Alpha generation [64], whose members were born in the new millennium. There is also an interesting approach to the observed generational divide, in which the Gen-C (as connected to the Internet) [65] generation stands out. However, this is not a generation determined by age but by psychographic features that define their behavior, values, attitudes and lifestyle related to digital technologies.

Due to the research perspective under consideration in the field of use of open innovations in building cultural identity, it seems worthwhile to apply a different approach to researching cultural identity in all generations, or at least to separate generations BB and X from generations Y and Z. This is particularly reasonable to focus attention on generations Y and Z, whose cognitive and communication processes are dominated by information technologies, and the interaction process is largely reduced to virtual contacts. In addition, one can see the blurring of cultural identity in these generations as a result of globalization lasting throughout their lives.

It seems a necessity to undertake research in the field of ways of sharing cultural heritage adapted to the needs of successive generational groups in order to revive their cultural identity. Using open innovations related to modern technologies for this purpose is extremely appropriate here.

It can be expected that the perception of heritage facilities by Generation Y and Z, and even Gen-C, in the first phase will be based on a one-way impact, through visually attractive projections posted in social media. These can be attractive photographs and videos, as well as limited access to virtual reality (VR), which allows them to see parts of the facility and its exhibitions via the Internet and even augmented reality (AR), in which a virtual guide can guide you around the facility. In the next phase, this contact, on the initiative of a potential visitor, may take on a two-way character, although still limited to virtual reality. At the same time, it is a phase of offering two ways of getting to know the cultural heritage, from which the representative of a generation will choose the most suitable for him. An example of the first is a visit to a facility presenting cultural heritage (reality), while the second one could have access to a virtual version of the tourist route using VR or AR transmission.

4.2. Impact of Heritage on Education and Cultural Identity by Using of Open Innovation

The role of heritage in education is appreciated by subsequent researchers. A broad review of the literature on heritage in educational discourses is published by O. Fontal et al. [66]. The authors, based on 223 publications on this topic, identified as many as five areas of research. These are:

- Heritage education in formal education;
- Heritage education, cultural heritage, and educational innovation;
- Archaeological heritage education;
- Heritage education, case studies, and historical awareness;
- Heritage education, and classified research genealogies and methodologies.

An interesting idea of heritage education is proposed by G. Simsek and A. Elitok Kesici [67], who used drama as a teaching method for this purpose. The authors explain that

drama is a concept of experiencing an idea, an event in everyday life or a behavior through the use of acting techniques, considering previous cognitive patterns in the education context. Their research indicates that drama can be considered as an effective tool for building awareness among students of their cultural heritage, especially if it is treated as a tool to stimulate interest in heritage.

In turn, R. Mendoza et al. [68] developed a framework for heritage education using emerging technologies. By implementing a conceptual base, they aimed to support the best understanding of the actors and processes related to heritage education. They also attempted to support the creation of applications that, using information and communication technologies, became an opportunity to initiate relationships between visitors and their heritage. Somewhat similar research in the use of digital technologies will be performed by S. Manca et al. [69]. However, L. Lucas-Palacios et al. [70] go a step further, as they point out the need to prepare teachers for this process.

M. Ott and F. Pozzi [71] investigated how information and communication technology tools (ICTs) could contribute to enhancing cultural heritage education. They emphasize that ICTs offer easier access and a multi-perspective view of cultural heritage. However, in their opinion, by adopting innovative teaching methods, it can also enrich and improve education in the field of cultural heritage. It seems that open innovations have a special role in this respect and are worth considering for use in heritage education, especially in the direction of reconstructing cultural identity.

The practice of using open innovations in organizational processes related to acquiring and making cultural heritage available should be based on the third archetype of processes related to the use of open innovations, i.e., coupled process type (ambidextrous open innovation), which joins exploration and exploitation. Undoubtedly, the first phase will be acquiring elements of cultural heritage from outside in the form of exhibitions, artifacts, cultural creativity and knowledge of history (outside-in process type) and then making it available to customers. In turn, the reverse process (inside-out) involves making available the ways and forms of using local cultural heritage to other social organizations. This action will also be beneficial for the facility providing innovative solutions using cultural heritage in an open form, as the creation of an organizational network with other suppliers of cultural heritage may multiply the effect of strengthening the educational role and cultural identity of customers. This will especially apply to the youngest generations (Generations Y and Z).

However, the context of the considered impact processes for building cultural identity should be clearly indicated, as generational affiliation becomes a variable interfering between social cultural heritage and personal cultural identity. Depending on which generation the person comes from, the impact of cultural heritage on their cultural identity may take a different form. Importantly, although it could be assumed that the 'Generation' variable may act as an intermediary variable (moderator) between the 'Cultural Heritage' predictor and the 'Personal Cultural Identity' explanatory variable causing its changes, this assumption should be considered incorrect. The predictor does not affect the 'Generation' variable, but vice versa—it is the confounder 'Generation' that can affect the way heritage is perceived, which at the same time will affect the 'Personal Cultural Identity'. Further research should aim to build a causal model, which is possible and achievable when data identifying external and internal factors of open innovation are available. This was already presented in the article by M. Shafiei and N.A. Hakaki [22], who identified the factors influencing open innovation in small and medium-sized enterprises in Iran.

It should also be clearly stated that, apart from the reference to digital technologies, the generational differences observed by the researchers do not indicate a radical change in the way social activities, e.g., through heritage tourism, shape cultural identity in successive generations. However, significant differences between generations of tourists can be expected. The hitherto determinants of cultural identity, and in particular its specific case, which is regional identity [72,73], can be summarized as elements related to (1) language, including the local dialect, but also (2) customs and (3) history uniting

individuals in the community, and (4) the same values, often determined by the accepted religious denomination [74,75]. However, the generations from the period of the digital revolution do not necessarily shape their cultural identity in relation to these four aspects, because the processes of globalization can shape their cultural identity at a higher territorial level, e.g., continental or even global. It is possible that this will be a reference to completely different social categories.

Also, the way of perceiving the world may be significantly different in the BB and X and Y and Z generations, because the characteristics of the young generations are far from an attachment to the history, tradition or religion of their ancestors, and the local dialect, which was alive in the previous century, is being replaced by languages spoken by huge transnational communities. Therefore, the model of shaping or reviving cultural identity among persons from generations Y and Z should verify hypotheses related to new designations of cultural identity but also the way of perceiving heritage artifacts (Figure 1).

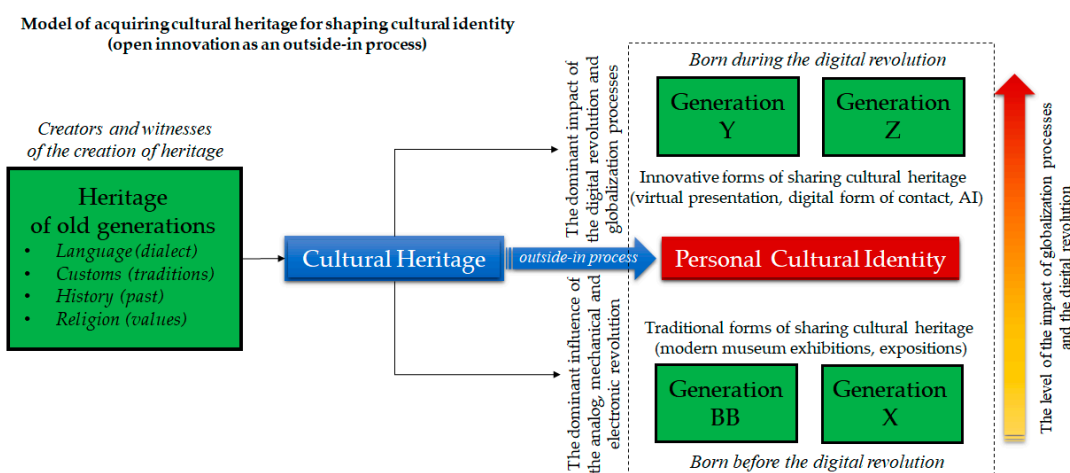


Figure 1. Model of acquiring cultural heritage for shaping cultural identity.

Figure 1 presents not only the process of cultural identity transition through cultural heritage but also the method of transferring heritage to organizations making it available through the outside-in process. However, Figure 2 shows the reverse process of making the absorbed and used knowledge available to other organizations, for example, in the form of transmitting heritage using various educational methods. The process of sharing an open innovation (inside-out), following the process of generating it (outside-in) through knowledge transfer, consequently, creates an ambidextrous innovation. It is worth emphasizing that this practical dimension in the field of restoring cultural identity may involve a significant involvement of education focused on a specific type of heritage. The integration of all four organizational forms may initiate the creation of a network of educational institutions that provide access to heritage in a comprehensive manner.

It should be noted that, although in the first phase of the process of creating an open innovation, we are not dealing with direct acquisition of a shaped open innovation but only with the acquisition and transformation of generally available cultural heritage; this process still has the features of open innovation. It is true that in many cases, heritage treated as innovation is not yet defined in this way, and the initiator of this process is the entity that makes it publicly available. However, such an open innovation is knowledge developed by researchers or the descendants of previous generations or even cultural heritage hobbyists. When an organization provides an open innovation with a diversified cultural heritage profile and thus initiates the creation and development of a network of cultural heritage centers, it may even take the form of a multidexterity innovation initiator. This task can be implemented with the ambitious participation of various levels of education or appropriately targeting heritage education.

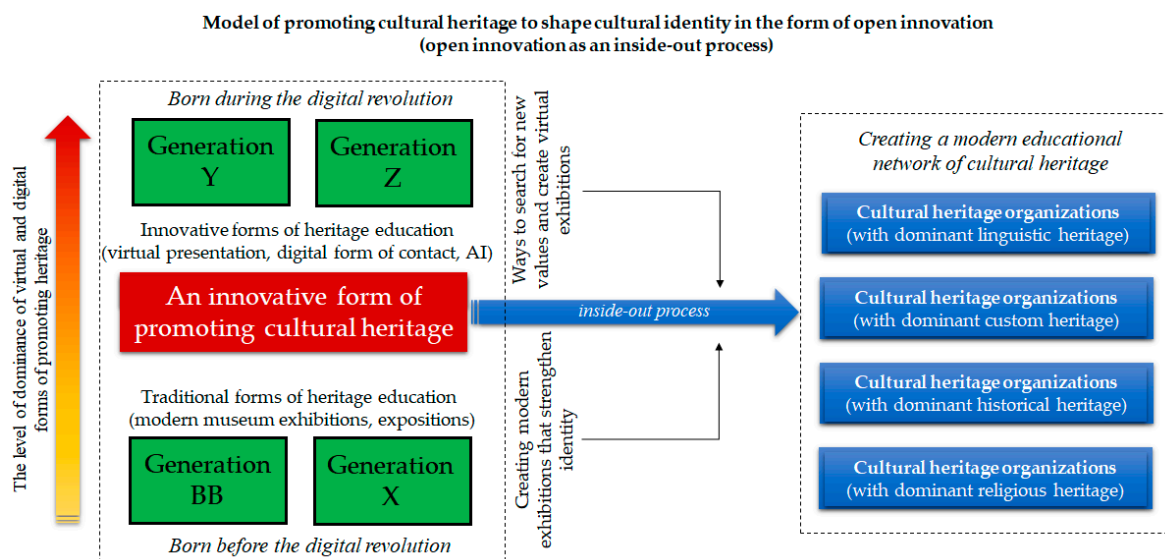


Figure 2. Model of sharing cultural heritage to shape cultural identity in the form of open innovation.

5. Conclusions

The above article proposes a new perspective on the use of open innovation in cultural heritage activities in shaping the cultural identity of future generations. As a consequence, a model of acquiring cultural heritage for shaping cultural identity and a model of sharing cultural heritage to shape cultural identity in the form of open innovation were proposed. These models, when put together, create a form of ambidextrous innovation because they demonstrate the organization's ability to simultaneously implement exploratory and exploitative innovations. The enormous role that education can play in this process was emphasized. Education seems to be an important link in the transfer of open innovations, through the dissemination of new content and ways of transmitting heritage.

It should be emphasized here that the formulated proposals are based on literature reports and research that did not cover the youngest generations, especially the Alpha and C generations. Furthermore, these studies are often carried out by authors born before the era of the digital revolution. On the one hand, this element is an asset that allows for a broader perspective and greater objectivity but at the same time, it may be associated with errors in understanding the perspective of young generations of people. However, the proposed approach is an attempt to organize the discussed process by using open innovations and expanding knowledge about the use of cultural heritage in shaping individual cultural identity.

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