

# The impact of the Rijksstudio on the museum business model as tool for value creation

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**Abstract.** The diffusion of sophisticated and at the same time accessible technologies has led to a paradigm shift in the traditional ways of creating value in cultural heritage, imposing a change in the business models of organizations in the sector and in particular museums. With the aim of conducting an exploratory analysis to understand how digitization has influenced the change in cultural business models, this research focused on the Rijksstudio platform, designed and implemented by the Rijksmuseum in Amsterdam in order to generate new ways of relating to users and visitors. The authors chose to adopt a qualitative single case study approach and the evidence obtained was classified using Ramaswamy and Ozcan's Co-Creation Framework (CCF) to understand how the museum redesigned its digital service through a value co-creation approach capable of generating a high degree of interaction with its target audience.

## 1 Introduction

The increasing diffusion of new technologies has helped to foster innovation in the cultural sphere [1], leading organizations in the sector to rethink the ways in which they seek to achieve their mission. New business models are being developed and the processes of cultural education and participation are enhanced [2], while traditional patterns of fruition and consumption and the usual logics of value creation are being reconfigured. In particular, digital technologies are imposing a paradigm shift in the value creation processes of museums, making the boundaries of the information environment increasingly permeable between the offline and online worlds [3]. Digitisation emerges as one of the main tools at a museum's disposal to achieve multiple purposes including attracting a greater number of visitors and engaging new audiences who demand more accessible and differentiated products and services, but also increasing museum accessibility to types of audiences who suffered from the presence of different types of barriers, which can be overcome thanks to digital technology [4]. In fact, the use of new technologies in cultural valorisation can also be considered an expression of social change and the emergence of new trends and more

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articulated desires on the part of consumers [5] who are turning into digital prosumers, namely participative users and co-producers in the generation of cultural content [6]. In order to provide an adequate response to the renewed needs of the public, museums have devoted increasing attention to content sharing, declined in different forms and aimed at building new communities of reference: from sharing their collections on freely accessible online platforms, to the creation of experiential and interactive narratives (storytelling) in which visitors and staff can take part through social media [7], although in the latter case, the need to use specific skills and an equally specific language towards the relevant public was underlined [8].

These strong changes brought about by the digital have had strong repercussions on the business models of the museums themselves, in which numerous aspects have been modified. It was chosen to analyse the changes in business models that an international museum such as the Rijksmuseum in Amsterdam has had, following the implementation of its digital platform "Rijksstudio", considered exemplary for the way and methods with which it offers its contents, in an engaging way for users and free of charge.

RQ: How does the business model change with the digitalisation of the cultural offer?

## **2 Literature review**

The digitalisation of the cultural offer requires museums to reconsider traditional business models and make use of new configurations and tools that can enable value co-creation logics. The aim of this literature review is to analyse the different types of business models adopted by museums today and to provide an overview of the value co-creation processes that can be carried out within these institutions.

### **2.1 Business model in museum**

The museum is an exemplary figure for its ability to adapt to new scenarios, developing creative and engaging solutions [9], but also with the care and precision with which its management prepares its offer to customers, in a model viewed with great interest even from large entrepreneurial giants [10]. Indeed, the business models used by museums have radically changed in recent years thanks above all to the methods of disseminating heritage linked to digital impact, where the physical experience remains relevant, but at the same time reaching distant audiences also becomes fundamental [11]. The revenue aspect also becomes extremely important, combining with modern economic sustainability criteria, where a fundamental role is given by partnerships and sponsors [12]. Greffe, Krebs, & Pflieger [13] argue that in the museum sector there are mainly three types of business models, depending on how the museum orients its policies:

- The “Branding Museum”, oriented towards the search for new economic revenues thanks to merchandising, publications, multimedia materials and in general the exploitation of the museum's intellectual rights
- The "Event-driven Museum", oriented towards the organization of events, in order to increase the loyalty of its audience, but also to guarantee economic sustainability

- The “Empowering Local Community Museum”, aimed at increasing and strengthening local communities, including voluntary activities, offering its spaces for events and debates of a local nature.

Digital development influences museum models thanks to revenues generated through digital which help to carry forward the social mission of the museum, thus generating a direct link: virtual reality also generates a social value which is amplified by digital [14], and in the future the metaverse will always aim for greater branding of the museum and related user involvement [15]. Business relationships are therefore modified thanks to the impact of digital, but at the same time it is clear that the museum information system no longer falls solely on the staff, but on an online level involves users. Furthermore, a new offer of products linked to digital, such as virtual reality, is outlined, denoting how we can therefore speak of a digital globalisation, where the offer must deal with an infinite audience of subjects who need to increase their degree of competitiveness [16]. It was also highlighted that in the changes in business models, it is found in the museum sector that those museums that adopt a social approach in their business models and use open innovation strategies are able to achieve social innovation towards all stakeholders and especially the public [17]. It was also highlighted how the digitization process is the result of an intense collaboration between the museum staff, both from a historical, artistic and technical point of view, but also through collaboration with university institutions and local businesses [18], developing an important ability to carry out projects with these subjects [19]. In this context of international competitiveness that digital offers, the management of digital contents, as well as the cultural communities that the museum creates, as well as its distribution channels, represent a fundamental challenge to gain an advantage in the scenario described [20].

The transformation of business models through digital has been influenced by Covid-19, undergoing a strong acceleration and modifying the relationships with the public of museums and modifying the creation of value proposed by the museum itself [21].

## **2.2 Value co-creation in the museum sector**

The impact of digital has led to a change in museums' business models and the definition of new logics of value co-creation, no longer generated only by museum governance and staff, but also externally by users [22]. The pandemic has certainly been a catalyst for digital changes for museums, which have seen ongoing processes started or accelerated, offering users free content, often also involving artists from home: content for a large audience that aims to integrate with their works and to start a dialogue with visitors beyond the visit with this new digital offer [23]. Even one of the modern pillars of museum activity, such as the search for economic, environmental, cultural and social sustainability [24] has led museums to modify their business model, precisely through the use of the digital tool, not only in search of a new value to propose, but in sharing this research with a network of interlocutors [25]. It is therefore highlighted through business models that you no longer try to intercept the user to show the value to propose, but involve him in the creation of this value thanks to digital technologies [26] and foster the development of new types of interactions that, according to Ramaswamy and Ozcan [27], are at the basis of value co-creation processes. They suggest a conceptual framework of co-creation by grounding their study in creation through interaction between people and material entities (e.g. devices), supported by digital technologies. These interactive platforms encompass the relationships of artifacts, processes, interfaces, and people, and considered to be the origin of value co-creation. These processes, however, are

activated even before the museum visit itself and can continue even afterwards, activating value co-creation processes in these moments.

Given one of the museum's characteristics, that of preserving unique cultural heritage, some studies have highlighted the efforts of these museum institutions to create outputs of great symbolic value from these works, through innovative exhibitions and digital tools [28], precisely through these recent digital technologies that force museum management to rethink its offer and in particular the value proposition of visitors [29]. The museum must also include in these new business models subjects linked to digital such as social media managers, influencers, sponsors and financiers in general and above all users, who are, yes, recipients of the offer, but at the same time partners of the museum in its own content creation. In particular, it is highlighted how recent technologies such as AR are effective in creating value, presenting and increasing knowledge and accessibility: also, for these reasons it is necessary for museum management to expand the fields of applications of this technology [30].

### **3 Methodologies**

Due to the explorative purpose of this research, the authors chose to use the idiographic approach allowed by the single case study methodology [31] and conduct an in-depth analysis of the Amsterdam Rijksmuseum, as a case of strong evidence in the business model changes with its Rijksstudio platform. This qualitative research method allows the key elements of the single case to be identified and, with a view to repeatability, subsequently applied to new situations, thus initiating a process of knowledge dissemination. The information employed was gathered through the use of secondary sources [32] and in particular the museum's website, articles, interviews and reports.

Given the originality of the topic at hand, the authors decided to systematize the information obtained by adopting Ramaswamy and Ozcan's Co-Creation Framework (CCF) to understand how the museum designed its digital service through a value co-creation approach involving four elements. The first element is artifacts, defined as “physical and digitized things, including data in the form of numbers, text, images, audio and video” [27]. The second element is processes, which, in the case of the Rijksmuseum, can be identified as the ways in which visitors interact. The third element concerns interfaces, i.e., the tools through which interaction is created, while the fourth element concerns people and includes all the individuals who interact with the museum experience, in their different roles. This framework, recently used by Marini and Agostino [33], is able to provide a clear perspective on the ways of value co-creation enabled by the use of digital in the museum sector, leading to the development of new business models or the integration of these with new elements.

### **4 Findings**

The Rijksmuseum, formally Rijksmuseum Amsterdam (Amsterdam State Museum), was founded in The Hague in 1800 as a national art gallery. In 1808 he was transferred to Amsterdam, where over the years his collection grew thanks to donations from private individuals and acquisitions. It currently has the largest collection of Flemish paintings, and in particular Dutch ones from the period between the end of the 1500s and the beginning of the 1700s, with more than 8,000 works by artists including Van Gogh, Rembrandt and Vermeer, as well as a vast and varied collection of Asian art. At the beginning of the 2000s,

the museum began interesting processes of change, which went through the important restoration and modernization works of 2003, by the Spanish architects Antonio Cruz and Antonio Ortiz, to arrive at changes in its business model and therefore above all to relate to one's audience, thanks to the advent of digital.

Over the years the Rijksmuseum has developed a governance that is very digitally oriented. When Covid-19 forced the temporary closure of museums almost all over the world, the museum had already developed a relationship with the public that went well beyond the normal physical museum visit, also developing other digital processes, such as security and management of works, therefore interesting not only the public, but also many scholars who were able to use the museum's online library to continue their research activity [34]. In fact, since 2012, the museum has made approximately 125,000 digitized works available to the public in very high resolution. This massive process of digitization of the works flows into what becomes the Rijksstudio, a platform that provides the user with the museum's digitized works, with a very high level of personalization of the works on the platform. From these processes comes a very strong reversal of what are considered the canons of business models in the museum sector that characterized the 20th century, with significant changes in the offer and in the way of approaching visitors.

By reworking Ramaswamy and Ozcan's model, taken into consideration in the methodology, we can highlight how in the case of Rijksstudio the elements of the model are declined: artefacts, processes, interfaces and people (Table 1).

#### **4.1 Artifacts**

The first element of the framework chosen as model, regards the artifacts of the museum, defined as “physical and digitized things, including data in the form of numbers, text, images, audio and video”. On a physical level, the museum features 8,000 works of art, recounting 800 years of Dutch art and history, and, generally, from the medieval period to the 20th century. The collection includes mainly paintings, but also objects such as books, furniture of various kinds, jewels, vases, clothes, statues, tapestries, armour, decorative furnishing elements, up to more recent artifacts, such as one of the first airplane models. The venue itself represents a strong artistic interest with some environments of artistic, modern and contemporary value, such as the Great Hall, the Philips Wing, the Cuypers Library and dedicated to specific topics, such as the Asian Pavilion.

#### **4.2 Processes**

The second element regards the processes, which, in the case of the Rijksmuseum, can be identified as the process of digitization. Since 2012 the Rijksmuseum has started a series of digitization processes, mainly focused on its own works, reaching the point of digitizing around 120,000 works in a short time, aiming to aim at the digitization of the entire museum heritage, around 1.1 million works, also of a technological partnership with Dell Technologies. Since 2012, the year in which the digital transformation began, Rijksstudio, a website developed with the support of funds generated by Vrienden Lottery plays, became available to the public. The digitization then produced images for the Rijksstudio and the Rijksmuseum app, made possible in collaboration with KPN, Fabrique, Q42 and Movin. To

support these processes, Dell Technologies provided storage, virtualization and server technologies, as well as laptops, desktops and other equipment.

### 4.3 Interfaces

The third element of the framework concerns interfaces. The platform is able to offer a totally customized content creation experience: the user must register (with the possibility of receiving the newsletter) in order to start creating their own collection or view that of other users. It is possible to choose from the available works to view them in very high definition. Once the work has been chosen, the platform gives the user the possibility of personalizing the work, cutting out or enlarging details and creating a new work. Furthermore, the possibility of combining these new works with the other works in the collection is given, giving free rein to the user's creativity and creating new works. The interface then allows you to download these creations, but also share them with other users. In addition to this creative aspect, Rijksstudio was also useful as a research tool, giving the possibility of studying the details of the works in an extremely in-depth manner.

### 4.4 Persons

The fourth element concerns people and includes all the individuals who interact with the museum experience, in their different roles. The user is therefore asked to choose from thousands of works and start a creation process in a totally independent manner. While carrying out this process he also has the opportunity to read the work sheets with important insights. There is therefore the possibility of editing the works and downloading them in high definition. In fact, it is possible to download a high-resolution print of your work and the museum encourages users to share their creations: t-shirts, mugs, calendars. In this way the user is invited after this process to transform the works into objects, creating branded merchandising and thus completing the process of creating new value. The user also has the possibility of purchasing a high-resolution print of their original work, paying and thus generating revenue for the museum. These works can also be shared by the user on social channels linked to their profile on Rijksstudio. This operation is able to generate visibility and publicity for the Rijksmuseum.

**Table 1.** The co-creation model of Rijksstudio.

Items	Description
Artifacts	About 8,000 artworks
Processes	Digitalization of the artworks
Interfaces	A platform that provides high-definition images with the possibility of modifying the contents.
Persons	Users are invited to start new value co-creation processes using the museum works

## 5 Discussion

The case analysed reiterates how the role of museum institutions has changed incredibly in recent years. From a role of protection of the works we have moved on to a role of valorisation, to the point of activating proactive relationships with visitors, through processes of creating value with digital, where social media have had the role of highlighting these processes and above all the results they generated. The business models of museums are therefore significantly modified, in general and especially in the case studies analysed.

From a theoretical point of view, this study is part of the debate on the digital transformation of the cultural sector, much explored in the literature, where however the creation of value in the museum sector can still boast a limited number of cases analysed in the managerial literature: this work invites a reflection on the importance of creating value through the use of material owned by the museum, interpreted as material belonging to everyone and therefore free to be used digitally. All this is possible thanks to the policies that give free access to one's works. In fact, the museum specifies that, since these are public works, the user can use digital reproductions of public domain objects without requiring authorization from the Rijksmuseum, even for commercial purposes, according to the rules established by the Declaration of public domain Creative Commons Zero (CC0). From a practical point of view, the contribution highlights how it is necessary to update the cultural offer of museums through digital: it is no longer sufficient to offer a passive visit. On the contrary, it highlights how the visit becomes a proactive experience, which is physically freed from the museum, through digital processes no longer bound to space-time barriers: it is therefore necessary to overcome past business models, to embrace digital as the engine of these changes. The case of the Rijksstudio, in fact, highlights how the changes in museum governance with digital technology have even materialized in a process of creating new value, generated by the user himself, where the museum has only the role of manager of the platform and of incentive to start merchandising activities with new works. The Rijksstudio therefore had the merit of creating a completely new value for the museum, also supported by social communication, with great consequences in terms of visibility for the museum itself, but also in terms of informal education for these communities, thanks to the communication and storytelling capable of attracting different types of audiences [35].

## 6 Conclusions

The study shows how museums must rethink their relationship with visitors, through the support of digital technologies [33]. In doing so, it becomes necessary to rethink their business models and the interaction elements (artefacts, processes, people and interfaces) they incorporate. In order for the implementation of digital technologies in the business model to be successful, in the development of value co-creation models, museums, as in the case of the Rijksmuseum in Amsterdam, must have a clear understanding of the type of experience to offer customers, which is therefore no longer just visitors, but users in general, and the type of relationship with them, so that the latter can play an active role as co-creators. The ease of access and customization of cultural services offered by new technologies amplifies engagement, allowing museums to reach new audiences and build interactive digital communities. The co-creation of value therefore emerges as a fundamental pillar on which to found cultural business models in the digital age, thus underlining how the museum no longer offers only visits, but experiences that can be previous, subsequent, or in any case unrelated to the visits.

## 7 Recommendations and Limitations

The analysis of a single case study, although capable of bringing new knowledge to the literature on the subject and of providing valuable insights into the managerial choices implemented by a major international cultural attractor in the field of digital transformation, has its limitations. In particular, it cannot provide an overview of the phenomenon analysed and needs future research able to systematize the evidence that emerged from this study and compare it with other cases on the international, in order to enrich the findings and dissect the topic in a more generic. Future research perspectives include the expansion of the number of case studies in order to obtain a detailed picture of the different ways in which cultural organizations modify their business models, sometimes implementing pivoting choices [36] to meet the changing needs of the audience and to implement value co-creation dynamics. At the same time, a more detailed analysis of the dynamics of co-creation with respect to the context in which it is set and the dynamics of the customer could be useful [37]. Finally, therefore, the study focuses on the institutional perspective; it would be beneficial to integrate it with the user's perspective.

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