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Locally focused and digitally oriented: examining eco-museums' digitization in a service quality management perspective

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Abstract

Purpose: Eco-museums safeguard the cultural authenticity and the historical identity of the place in which they operate. Conventional organizational models and management practices are generally employed to achieve this institutional aim. Conversely, innovative solutions – such as digitization – are overlooked. Adopting a service quality management perspective, the article intends to examine the role of managerialization and professionalization in triggering eco-museums' digitization.

Methodology: An empirical analysis involving 126 eco-museums operating in Italy as of 2018 was designed to investigate the implications of managerialization and professionalization on the eco-museums' propensity to embark on a digitization process. Two different forms of digitization were examined: 1) the presence of eco-museums in the digital environment; and 2) the exploitation of digital tools for service delivery. The mediating role of two “soft” Total Quality Management (TQM) practices, *i.e.* people centredness and strategic focus on visitors' experience, was contemplated in the empirical analysis.

Findings: The research findings suggest that managerialization and professionalization have ambiguous effects on eco-museums' digitization. Nevertheless, they indirectly contribute to a greater digital presence of eco-museums and to a larger use of digital tools for service delivery through an increased use of soft TQM practices.

Practical Implications: Managerialization and professionalization are likely to foster the digital transition of eco-museums, which advances their ability to protect and promote the local cultural heritage. Soft TQM practices intended to achieve people-centredness and to enhance the visitors' experience should be exploited to stimulate the eco-museums' digitization.

Originality: The article examines the triggers of eco-museums' digitization, providing some food for thought to scholars and practitioners.

Keywords: Eco-museums; Digitization; Managerialization; Professionalization; Soft TQM.

1. Introduction and study rationale

Eco-museums are a unicum in the realm of cultural institutions (Lindeqvist and Oscarsson, 2004). Their institutional aim is to contribute to a tripartite purpose consisting of: 1) cultural heritage promotion; 2) territorial identity protection; and 3) sustainable local development (Doğan and Timothy, 2020). Eco-museums are established on an idea of community empowerment (Kaur, 2019), which enacts a viable preservation of the local cultural heritage (Liu, 2014). More specifically, they can be conceived of as “...a mirror in which the local population views itself to discover its own image, in which it seeks an explanation of the territory to which it is attached and of the populations that have preceded it, seen either as circumscribed in time or in terms of the continuity of generations” (Rivière, 2009: p. 182). From this standpoint, eco-museums are complex and living institutions, which strive for involving relevant stakeholders and visitors in an engaging cultural experience intended to communicate the territorial identity and to preserve traditions, values, and beliefs inherited from the past (Griffin-Kremer, 2020).

Scientific literature is paying an increasing attention to eco-museums, considering them as the result of the need for rediscovering local cultures and safeguarding them from the homogenization brought by globalization (Donghai, 2008). Scholars involved in this research stream have investigated different management topics, ranging from the challenges and issues related to the establishment of an eco-museum (Massing, 2019) to the assessment of the value produced by the cultural activities provided by these institutions (Corsane *et al.*, 2007). However, to the best of the authors’ knowledge, there is limited agreement about the peculiar organizational features of eco-museums, as well as about the institutional and management factors that underpin their effectiveness (González *et al.*, 2017). *Inter alia*, literature quarrels over the triggers that foster the eco-museums’ digitization (Sánchez, 2020). This is a major gap in the scientific knowledge, since digitization is crucial to enable eco-museums to recontextualize their activities aimed at cultural heritage promotion in a service quality management perspective (Aiba and Sasatani, 2004).

The exploitation of Information and Communication Technologies (ICTs) to improve the eco-museums' effectiveness and to advance their ability to attain a viable preservation of the local cultural heritage has been emphasized in previous studies (*e.g.*, Llanos, 2015; Fernández-Hernández *et al.*, 2020). Eco-museums' digital transformation has been argued to generate multiple gains (Ciasullo *et al.*, 2015). Firstly, it allows to recontextualize the eco-museums' presence in the cyber-physical environment, improving their capability to communicate local cultures and traditions and to preserve their authenticity (Pan *et al.*, 2012). Secondly, it enacts a more sustainable fruition of the cultural offering, contributing to enhance the eco-museums' institutional relationships with relevant stakeholders (Howard, 2002). Thirdly, digitization is thought to augment the cultural experience that is delivered to visitors, enacting a virtualization of the eco-museums' service offering (Lin *et al.*, 2019). Lastly, yet importantly, digitization may support the heritage literacy of residents and visitors, which is essential to engage them in value co-creation (Ciasullo *et al.*, 2018; Babić *et al.*, 2019) and to put people at the centre of eco-museums' management (Bae and Lee, 2012; Kim and Lee, 2013).

The cultural institutions' managerial transformation has been associated with their proclivity to expand their institutional boundaries in the cyber-physical domain and to leverage digital tools and ICTs to improve their attractiveness (Colbence and Sabatier, 2014; Cappa *et al.*, 2020). In addition, cultural institutions' professionalization has been maintained to increase their ability to thrive in the digital domain, reshaping conventional organizational structures and management practices in light of the unfolding challenges faced by eco-museums in the cyber-physical environment (Given and McTavish, 2010). Both managerialization and professionalization have been claimed to indirectly contribute to the reconfiguration of the spatio-temporal context of museums' activities through soft Total Quality Management (TQM) practices, *i.e.* by stimulating a greater people-centredness and promoting the adoption of a focus on the visitors' experience in crafting the cultural service offering (Williams, 1998; Rossato and Castellani, 2020). In spite of these considerations, limited evidence is available on the implications of managerialization and professionalization on the eco-museums' ability to accomplish a digital transition. The article attempts to fill in this gap, illuminating the role

of managerialization and professionalization in stimulating the eco-museums' readiness to recontextualize their presence in the digital environment and to take advantage of digital tools to improve their service offering. Three Research Questions (R.Q.) inspired this article:

R.Q. 1: Does managerialization trigger a greater willingness of eco-museums to undertake a digital transformation?

R.Q. 2: Does professionalization engender a recontextualization of eco-museums' presence and activities in the digital environment?

R.Q. 3: Does soft TQM affect the implications of managerialization and professionalization on eco-museums' digitization?

An empirical study was designed to answer these research questions. The article is organized as follows. Section 2 depicts the conceptual background against which the research was conceived and advances the research hypotheses. Section 3 describes the methodology used to collect data and illustrates the statistical approach which was implemented to obtain evidence on the role of managerialization and professionalization in triggering the eco-museums' digitization. Section 4 reports the study findings, which are critically discussed in Section 5. Lastly, Section 6 finalizes the article, stressing the study's conceptual and practical implications.

2. Conceptual background

Cultural institutions are undergoing a steady managerialization which is reshaping their institutional identity and their organizational attributes (Zan, 2006; McCall and Gray, 2014; Ciasullo *et al.*, 2016). Managerialization primarily determines a transformation of value creation processes and activities implemented by cultural institutions, paving the way for the adoption of business-like organizational practices (Lindqvist, 2012). The adoption of a managerial perspective to run cultural institutions is consistent with a service ecosystem view (Ciasullo *et al.*, 2018), according to which cultural institutions strive for handling the intertwined economic, social, and environmental

challenges which affect their purpose of protecting and promoting the cultural heritage (Zutshi *et al.*, 2021).

Managerialization goes hand in hand with the professionalization of cultural institutions (Falk and Sheppard, 2006). Whilst managerialization involves technical advancements aimed at redefining the institutional and organizational activities implemented by cultural institutions, professionalization acts at a deeper level, entailing the specialization of responsibilities and roles assigned to decision makers (Harrison, 1994). Professionalization is rooted in an ideology of expertise, independence, and integrity (Grey, 1997). Besides, it echoes the adoption of an actor-centred perspective, which reframes the cultural institutions' activities in light of the specific needs and expectations perceived by external stakeholders (Björkdahl and Kappler, 2019).

Both managerialization and professionalization act as stimuli for the digital transformation of cultural institutions (Mannoni, 1996; Wenchang, 2008). This is especially true for eco-museums, which can exploit ICTs and digital tools to increase their ability to accomplish their institutional purpose (Di Pietro *et al.*, 2014; Palumbo *et al.*, 2021). Eco-museums' digitization can be conceived of as a two-fold phenomenon. On the one hand, it implies the repositioning of cultural institutions in the cyber-physical environment, expanding the range of interactions they are able to establish with relevant stakeholders (Liu and Tan, 2019). On the other hand, it involves the enrichment of the cultural offering with digital services, enabling a vivid and dynamic exchange with visitors (Scrofani and Ruggiero, 2013). Digitization opens additional spaces for value co-creation, fostering a ubiquitous connection between eco-museums and relevant stakeholders (Pesce *et al.*, 2019). Moreover, it provides eco-museums with innovative solutions to augment the visitors' experience, advancing the individual ability to appreciate the authenticity and the richness of the cultural heritage (Trunfio *et al.*, 2020). This is possible by engaging people in immersive activities enacted by virtualization, artificial intelligence, and gamification (Errichiello *et al.*, 2019; Virto and López, 2019).

Managerialization inspires the design and the implementation of tailored strategies and practices which take advantage of digitalization to reconfigure the activities of cultural institutions (Myrczik, 2020). More specifically, it determines a greater willingness of cultural institutions to exploit ICTs and digital tools to enhance the cultural institutions' attractiveness (Mingsiritham and Chanyawudhiwan, 2019). Professionalization leads to a greater acknowledgement of available opportunities to capitalize on digital technologies and web-based services in an attempt to improve the visitors' experience (Wiastuti *et al.*, 2020). Alongside increasing the eco-museums' attractiveness, this strengthens their capability to promote and protect their cultural heritage (Mason, 2020). Drawing on these arguments, it is hypothesized that:

Hp. 1: Managerialization triggers the eco-museums' digitization;

Hp. 2: Professionalization positively affects the digital transformation of eco-museums.

The effects of managerialization and professionalization on the eco-museums' readiness to implement a digital transformation is mediated by two factors, which are related to their service delivery approach (Manna and Palumbo, 2018). As previously anticipated, managerialization and professionalization boost the redesign of eco-museums' activities and practices in a service quality perspective, giving a greater emphasis to formal and informal TQM practices (Williams, 1998; Barile *et al.*, 2017). The managerial turn brings with itself a people-centred perspective to mould and deliver the cultural service offering (Romanelli, 2020), which is a key component of business excellence, as well as a driver of service quality (Milton-Smith, 1995). Similarly, professionalization sustains the openness of cultural institutions towards customers and relevant stakeholders as a strategic proposition to upgrade their organizational attractiveness (Maye *et al.*, 2017). This prompts a focus of eco-museums on the evolving needs and expectations of visitors in an attempt to devise a customized visiting experience (Sandifer, 2003). An increased attention of eco-museum to people-centredness is thought to determine a greater organizational propensity to digitize current strategies, structures, and operations to accomplish a co-creating interaction with visitors and stakeholders (Ciasullo *et al.*, 2018; Doukianou *et al.*, 2020). Actually, digitization allows eco-museums to reframe

their relationship with stakeholders, making it possible to adopt a fully-fledged people-centred perspective in articulating their cultural service offering (Parry, 2019). Hence, it is assumed that:

Hp. 3: People-centredness positively mediates the relationship between managerialization and the eco-museums' digital transformation;

Hp. 4: People-centredness positively mediates the relationship between professionalization and the eco-museums' propensity to undertake a digital transformation.

People centredness encompasses an enrichment of the visiting experience delivered to visitors (Jelincic and Senkic, 2017). The more the eco-museums adopt a people-centred perspective, the more they are encouraged to expand and improve their cultural service offering. This is possible by including additional services, such as live events, shows, and historical commemorations, which are directed at increasing the value perceived by visitors (Vermeeren *et al.*, 2018). The intention to improve the visiting experience leads to a larger exploitation of digital tools and ICTs to engage visitors beyond the physical space and to establish with them an immersive exchange (Petrelli *et al.*, 2018). Digitalization enables cultural institutions to meet the visitors' expectation to get a greater control over the visiting experience (Yu and Wang, 2020). Moreover, it increases the eco-museums' ability to improve the customers' enjoyment of their cultural offering through a balanced mix of edutainment initiatives (Nofal *et al.*, 2020). From this point of view, it is forecasted that:

Hp. 5: The focus on visitors' experience positively mediates the relationship between managerialization and the digital transformation of eco-museums;

Hp. 6: The focus on visitors' experience positively mediates the relationship between professionalization and the propensity of eco-museums to undertake a digital transformation.

People-centredness and the focus on visitors' experience have been proposed as soft TQM practices to boost the digitization of cultural institutions, augmenting their ability to enhance the cultural service offering sticking to a service quality management perspective (Brenton and Bouckaert, 2020). People-centredness envisages a rethinking of cultural institutions, stimulating the

transition towards a value co-creation approach which is tailored to cultural heritage protection and promotion (Carnegie and McCabe, 2008). The focus on visitors' experience which derives from such a rethinking implies a greater attention paid to the manifold attributes of the cultural experience. Eco-museums are solicited to establish a more direct and meaningful exchange with visitors, who are engaged into a transformational process which kicks off by entering in contact with the cultural heritage (Palumbo *et al.*, 2021). Drawing on these considerations, it is assumed that a serial mediation path links managerialization and professionalization to digitalization through the indirect role of people-centredness and focus on visitors' experience (Ciasullo *et al.*, 2015). Therefore, two additional hypotheses are proposed:

Hp. 7: People-centredness and the focus on visitors' experience serially mediate the relationship between managerialization and the digital transformation of eco-museums;

Hp. 8: People-centredness and the focus on visitors' experience serially mediate the relationship between professionalization and the propensity of eco-museums to undertake a digital transformation.

3. Methods

3.1 Research Design

A serial mediation analysis was designed to collect evidence on the direct and indirect implications of eco-museums' managerialization and professionalization on their propensity to undertake a digital transformation. Sticking to the conceptual framework depicted above, four statistical models were elaborated. Two models were intended to obtain insights into the role of managerialization in triggering a digital turn of eco-museums, whilst the other two focused on the implications of professionalization on eco-museums' digitalization. Two forms of digitization were investigated. More specifically, attention was paid both to the digital presence of eco-museums in the cyber-physical domain and on the introduction of web-based digital services to improve the visitors'

experience. The eco-museums' propensity to implement a people-centred approach in managing their cultural activities and their strategic orientation towards the enrichment of the visitors' experience were included as the mediating variables in the four statistical models, accounting for the role of soft TQM in fostering the eco-museums' digitization. Figure 1 graphically depicts the statistical models which were investigated in this empirical research.

[Please, put Figure 1 about here]

The approach proposed by Hayes (2018), which relies on 5,000 bootstrap samples and on Ordinary Least Square (OLS) regression-based path analysis, was used. All elaborations were run through the Statistical Package for Social Science (SPSS, v. 24). Model no. 6 of the MACRO process embedded in SPSS was implemented: it allowed us to obtain consistent results about the direct and indirect implications of managerialization and professionalization on eco-museums' digitization (Hayes *et al.*, 2017).

3.2 Variables

Secondary data were collected from the latest national survey on museums and cultural institutions operating in Italy. Data were compiled by the Italian Institute of Statistics (ISTAT) in 2018 and they were made available in early 2020 according to a *Creative Common Licence 3.0*. As recommended by ISTAT (2018), available data were exclusively used for research purposes. Since ISTAT was not directly involved in this study, the research findings should be ascribed to the authors exclusively. In line with the research purposes, only eco-museums were admitted in the analysis. Hence, the study sample consisted of 126 organizations. Data were stored in an electronic worksheet to systematize the variables which were run in statistical elaborations.

A heuristic approach was used to operationalize the main dimensions investigated in this study. Managerialization was assessed as the eco-museums predisposition to adopt business-like practices to accomplish their organizational activities (Palumbo *et al.*, 2021). Different items were

contemplated to compute the managerialization score of eco-museums, such as the introduction of a management system to monitor organizational activities and the arrangement of a service charter to enhance the eco-museum's relationship with visitors and stakeholders. The managerialization score was an interval scale variable, ranging from 1 (lowest level of managerialization) to 5 (highest level of managerialization). Professionalization was assessed in light of the specializations available to address the management challenges faced by eco-museums. As recommended by the scientific literature (Striebing, 2017; Hwang and Powell, 2009), both the composition of the management team and the professional expertise of each management member were assessed to gauge museums' professionalization. The larger the availability of specializations, the greater the professionalization of eco-museums. Professionalization was operationalized as an interval scale variable, ranging from 1 (lowest degree of professionalization) to 5 (greatest degree of professionalization).

The digital presence of eco-museums assessed the propensity of the units of analysis to exploit digital tools and ICTs to build sound relationships with external stakeholders (Ahmed *et al.*, 2020). The more varied the channels used by eco-museums to interact with relevant stakeholders in the cyber-physical environment, the greater their digital presence. Moreover, the introduction of web-based services to enrich the service offering delivered to visitors was investigated (Piancatelli *et al.*, 2020). It was assumed that the more varied the eco-museums' digital service offering, the more pervasive their digitalization. The scores related to the digital presence and to the delivery of web-based services were measured as interval scale variables, ranging from of 1 (lowest level of digitization) to 5 (highest level of digitization).

People-centredness was assessed by looking at the design of customer-oriented ancillary services which complemented the traditional cultural activities performed by eco-museums in a perspective of enhanced service quality (Traboulsi *et al.*, 2018). The inclusion of additional services – such as live events, shows, and commemorations – in the eco-museum's service offering was identified as a signal of people-centredness (Manna and Palumbo, 2018). The focus on the visitors' experience was investigated in light of the eco-museums' willingness to enrich the customers' visiting

experience by expanding the cultural offering with value-added services, including customized guided tours, proactive information delivery, and customer-centred visit assistance (Conti *et al.*, 2020). These two mediating factors were assessed as interval scale variable, ranging from 1 (lowest use of soft TQM practices) to 5 (highest use of soft TQM practices).

3.3 Sample

Table 1 reports the institutional characteristics of the study sample. North-western (37.3%) and North-eastern Italy (21.4%) accounted for more than half of the eco-museums. Central Italy followed, representing slightly less than a fourth of the sample (23.8%). Main Italian Islands (11.9%) and Southern Italy (5.6%) hosted about 1 in 6 eco-museums. The majority of cultural institutions were primarily focused on ethnography and anthropology (31.7%). Local historical heritage (16.7%), history (15%), archaeology (9.5%), and modern and contemporary arts (8.7%) followed.

[Please, put Table 1 about here]

A large part of the sample was founded during the 21st Century (49.1%). More than 2 in 3 eco-museums were inaugurated in the second half of the 20th Century (46.9%). Only 5 eco-museums were established in the first half of the 20th Century or earlier (4%). A third of cultural institutions were privately owned (35.6%), whilst public sector entities owned 81 eco-museums (64.4%). Municipalities were the single major owner of eco-museums involved in the analysis (59.5%). On average, the eco-museums had an average number of 6 employees ($\sigma = 6.5$), ranging from a minimum of 1 employee to a maximum of 50 employees. The average exposition area was 740 square meters ($\sigma = 982.10$ square meters).

4. Findings

Some descriptive statistics allow us to get an overview of the eco-museums' attributes in terms of managerialization, professionalization, and digitization. On average, the eco-museums showed an

adequate managerialization score ($\mu = 2.68$; $\sigma = 1.28$). About 1 in 5 cultural institutions reported a limited managerialization (19.8%): they did not implement business-like strategies and tools to drive their organizational activities. The professionalization score was lower than the managerialization one ($\mu = 2.19$; $\sigma = 1.40$). Half of the eco-museums disclosed a limited or very limited specialization of roles and competencies. The digitization score was relatively low, too. On the one hand, the eco-museums reported a limited presence in the cyber-physical domain ($\mu = 2.07$; $\sigma = 0.96$). On the other hand, they were not used to recontextualize their service offering in the digital context, providing only a narrow array of web-based services to visitors ($\mu = 1.81$; $\sigma = 1.03$). In spite of these considerations, about 1 in 8 eco-museums was found to have a good presence in the digital environment (12.5%), whilst 1 in 6 institutions was used to deliver both physical and digital services to visitors (15.9%). The eco-museums were found to perform well in terms of people-centredness and visitors' experience. The average people-centredness score was satisfying ($\mu = 2.99$; $\sigma = 1.14$), with 4 in 10 eco-museums stating a relevant predisposition to arrange people-centred practices to improve their attractiveness (41.3%). The units of analysis disclosed a significant focus on the enrichment of the visitors' experience ($\mu = 3.20$; $\sigma = 1.05$). In particular, about half of them reported that the improvement of visitors' experience was a key factor underpinning decisions related to cultural services' delivery (49.2%).

Table 2 provides an overview of the outcome of the four serial mediation models. Alongside the main variables depicting the key phenomena investigated in this study, some covariates were contemplated in order to check the consistency of the study findings. More specifically, three covariates were run in the statistical model: 1) the eco-museums' organizational dimension (measured according to the number of employees); 2) their institutional ownership (public or private ownership); and 3) their geographical location (main geographical areas of Italy).

[Please, put Table 2 about here]

Model 1 investigated the direct and indirect effects of managerialization on the eco-museums' digital presence. Managerialization was found to positively and significantly affect the propensity of

eco-museums to recontextualize their presence in the digital environment (Coeff. = 0.15; significant at the 0.05 level). The institutions which disclosed a greater managerialization were more likely to use digital tools and ICTs to manage their interactions with relevant stakeholders. Neither the dimension nor the ownership of eco-museums seemed to affect their presence in the digital environment. However, geographical location was positively and significantly related to this form of digitalization (Coeff. = 0.32; significant at the 0.05 level): eco-museums established in Northern Italy were more likely to have a digital presence. Whilst people centredness did not influence the digital presence of eco-museums, the strategic focus on the visitors' experience triggered an increased predisposition of cultural institutions to thrive in the cyber-physical context (Coeff. = 0.24; significant at the 0.001 level). People-centredness did not act as a mediating variable in the relationship between managerialization and digitalization. Otherwise, the strategic focus on the visitors' experience acted as a positive and statistically significant positive mediator (Coeff. = 0.07; significant at the 0.01 level). The serial mediation was not significant. However, the total indirect effect of managerialization on eco-museums' digital presence was positive and statistically significant (Coeff. = 0.14; significant at the 0.01 level).

Model 2 concerned the implications of managerialization on the provision of digital services to customers. Managerialization was not found to entail a greater willingness of eco-museums to take advantage on ICTs to reframe their activities related to cultural heritage protection and promotion. Also, the covariates did not seem to affect this type of eco-museums' digitization. Whilst people-centredness did not anticipate a larger use of digital tools to deliver cultural services to customers, the strategic focus on the visitors' experience was positively and significantly related to the eco-museums' recontextualization of their service provision in the cyber-physical domain (Coeff. = 0.40; significant at the 0.001 level). Even though managerialization did not have a direct effect on the eco-museums' predisposition to exploit digital tools and ICTs to reshape their cultural offering, it was found to have a significant indirect effect as mediated by a strategic focus on visitors' experience (Coeff. = 0.12; significant at the 0.01 level). People centredness did not act as a mediating variable

in the relationship between managerialization and digitization of eco-museums' service delivery. Once again, the serial mediation was not statistically significant. Nevertheless, the total indirect implications of managerialization on digitization were positive and statistically significant (Coeff. = 0.22; significant at the 0.01 level).

Model 3 dealt with the implications of professionalization on the eco-museums' digital presence. Professionalization performed as a positive and statistically significant determinant of eco-museums' willingness to use digital tools and ICTs in order to interact with relevant stakeholders (Coeff. = 0.19; significant at the 0.01 level). The more the cultural institutions recurred to professionalization, the more they exploited digital solutions to enhance their ability to accomplish their institutional aims. Covariates were not found to influence the digital presence of eco-museums, with the sole exception of geographical location (Coeff. = 0.37; significant at the 0.001 level). On the one hand, people-centredness did not affect the digital presence of the eco-museums. On the other hand, a strategic focus on visitors' experience enacted a greater digital presence of eco-museums (Coeff. = 0.22; significant at the 0.05 level). Whilst people-centredness did not act as a significant mediator in the relationship between professionalization and digital presence of eco-museums, the strategic focus on visitors' experience positively and significantly mediated the effect of professionalization on digitization (Coeff. = 0.06; significant at the 0.01 level). Serial mediation was not significant. However, the total indirect effect was positive and statistically significant (Coeff. = 0.12; significant at the 0.01 level).

Model 4 addressed the relationship between professionalization and the eco-museums' exploitation of digital tools to deliver their cultural offering. Professionalization did not have a significant direct effect on this form of digitization. The same was true for covariates, which did not display statistically significant coefficients. Both people-centredness (Coeff. = 0.24; significant at the 0.001 level) and a strategic focus on visitors' experience (Coeff. = 0.46; significant at the 0.001 level) were positively and significantly related to the use of digital tools and ICTs to enrich the eco-museums' service delivery. Whilst people-centredness did not mediate the relationship between

professionalization and digitization of cultural services, the strategic focus on visitors' experience had a positive and statistically significant mediating role (Coeff. = 0.13; significant at the 0.01 level). The serial indirect effect of people-centredness and strategic focus on visitors' experience was not significant. The total indirect effect was positive and statistically significant (Coeff. = 0.23; significant at the 0.01 level).

5. Discussion

Table 3 synthesizes the main findings of this empirical study, contextualizing them to the research hypotheses. Managerialization and professionalization had ambiguous effects on eco-museums' digitization. On the one hand, managerialization triggered a greater propensity of eco-museums to take care of their digital presence in order to establish more direct and straightforward interactions with relevant stakeholders (Palumbo *et al.*, 2021). This is consistent with the purpose of bringing virtuality on the scene to identify new models and approaches to accomplish the protection and promotion of cultural heritage (Müller, 2002). Managerialization determines a greater maturity in undertaking a digitization process, which reframes the organizational identity of cultural institutions in the digital environment (Guarino *et al.*, 2020). However, managerialization did not have a role in improving the eco-museums' predisposition to recontextualize their service offering in the digital environment (Brenton and Bouckaert, 2020). Professionalization had similar implications on eco-museums' digitization. Whilst it drove a greater digital presence of cultural institutions, it did not imply a larger use of ICTs and digital tools to deliver cultural services to visitors (Ciasullo *et al.*, 2018). This situation can be explained in light of the partial contribution of professionalization in filling in the knowledge and competence gap which prevent the digital transformation of eco-museums (Given and McTavish, 2010), paving the way for a recontextualization of their inter-organizational relationships in the cyber-physical context (Dibitonto *et al.*, 2020). In sum, *Hp. 1* and *Hp. 2* were partially supported.

[Please, put Table 3 about here]

Soft TQM practices had a limited role on the process of eco-museums' digitization. People-centredness did not mediate the implications of managerialization and professionalization on digitization (Ciasullo *et al.*, 2015). This result contrasts with the arguments of scholars who maintain that the digital transformation of cultural institutions is primarily triggered by the intention to devise a people-centred cultural service offering, which is able to effectively meet the evolving demands of the community (Minoska-Pavlovska, 2019). Conversely, the eco-museums' strategic focus on the enhancement of the visitors' cultural experience positively and significantly mediated the effects of managerialization and professionalization on digitization (Elgammal *et al.*, 2020). The eco-museums which performed better in terms of managerialization and professionalization were more likely to pay a greater attention to the enrichment of the visitors' experience (Agostino and Arnaboldi, 2021), which – in turn – stimulated a greater effort to exploit ICTs and digital technologies to establish a better relationship with customers (De Bernardi *et al.*, 2019). Hence, whilst *Hp. 3* and *Hp. 4* were not supported, *Hp. 5* and *Hp. 6* were upheld.

The indirect effects of managerialization and professionalization on eco-museums' digitization serially mediated by people-centredness and focus on visitors' experience were positive, but not statistically significant. Notwithstanding, the total indirect effect of managerialization and professionalization on digitization were positive and statistically significant. From this point of view, *Hp. 7* and *Hp. 8* were not supported. As argued in literature, the evolving processes of cultural institutions' managerialization and professionalization is determining a greater attention paid to the design of people-centred cultural services. This is expected to improve the institutional attractiveness of cultural institutions towards current and prospective customers (Manna and Palumbo, 2018). Moreover, it engenders increased strategic and management efforts to enrich the visitors' experience, in order to engage them in the promotion and dissemination of cultural heritage (Brida *et al.*, 2016). The aims of improving the people-centredness of cultural activities and of advancing the visitors' experience foster a greater propensity of eco-museums to undertake a digital transformation (Giannini

and Bowen, 2019). In line with these considerations, the digital presence and the exploitation of ICTs to deliver cultural services have been largely considered to be the result of a reconfiguration of cultural institutions' strategies and practices in a perspective of customer-orientation and service quality management (Tesoriero *et al.*, 2014; Devine and Tarr, 2019).

Several limitations affected this study: acknowledging them allows us to better contextualize the research findings and to envision avenues for further developments. Firstly, only eco-museums established in Italy were contemplated in the analysis. This constrains the generalization of the study results. However, since the whole population of Italian eco-museums was contemplated in the empirical analysis, it is possible to maintain the research findings' dependability. Secondly, the use of secondary data did not permit us to tailor the data collection to the specific purposes of this study. Notwithstanding, the data provided by ISTAT were consistent with the research aims and represented a consistent source to provide an answer to the questions that inspired this study. Thirdly, the cross-sectional approach adopted in this research provided us with a snapshot of the state of the art of eco-museums' digitization; however, it prevented from collecting evidence about the lengthwise implications of managerialization and professionalization on digitization.

Further research is required to fully illuminate the factors which stimulate the eco-museums' propensity to undertake a digital transformation which is intended to improve their ability to protect and promote their cultural heritage. An expansion of the geographical boundaries within which this research was conducted may pave the way for the collection of more dependable and generalizable evidence. Moreover, adopting a longitudinal perspective to investigate the direct and indirect implications of managerialization and professionalization on eco-museums' digitization may provide us with more consistent insights, capturing the manifold implications of the managerial turn which is characterizing cultural institutions across the world. In-depth qualitative studies are required to push forward our understanding of the challenges that are faced by eco-museums to achieve a greater presence in the digital environment and to take advantage of ICTs to enrich their cultural service offering. Finally, yet importantly, a focus on particular types of eco-museums, which can be

discriminated in light of their organizational dimensions (small-sized eco-museums *Vs* medium and large-sized eco-museums) and to their subject areas (e.g. eco-museums focused on archaeology *Vs* eco-museums focused on history), may generate more nuanced empirical evidence on the implications of managerialization and professionalization on digitization.

6. Conclusions

The evidence collected in this study provides some food for thought to answer the research questions. Managerialization and professionalization had positive implications on eco-museums' digitization. They entailed a greater propensity of eco-museums to recontextualize their presence in the digital environment, fostering their ability to protect, promote, and disseminate the cultural heritage in a cyber-physical environment. However, neither managerialization nor professionalization engendered a larger use of ICTs and digital tools to enrich the service offering delivered to current and prospective customers.

It is worth noting that managerialization and professionalization implied the adoption of a people-centred approach in designing and delivering the eco-museums' services. Moreover, they stimulated a strategic focus on the improvement of the visitors' experience to increase the eco-museums' attractiveness. Nonetheless, people-centredness did not affect the relationship between managerialization, professionalization, and digitization. Conversely, the strategic focus on visitors' experience acted as a positive and significant mediator which propelled the implications of managerialization and professionalization on eco-museums' digitization. From this point of view, it can be argued that, if properly handled, soft TQM may contribute in enhancing the effects of managerialization and professionalization on eco-museums' digitization.

The implications of this research are twofold. From a conceptual point of view, it emphasizes that, even though they represent different steps in the modernization of business models and organizational practices implemented by cultural institutions, managerialization and

professionalization should be conceived as two faces of the same coin. Entailing the arrangement of business-like approaches to steer the functioning of eco-museums, managerialization may contribute in increasing their organizational adaptability, encouraging a digital transformation as a way of achieving a greater fitness with the external environment. Moreover, bringing in specialized competences and advanced knowledge related to the manifold areas of concern that affect the functioning of cultural institutions, professionalization pushes a greater capability to implement innovative interventions which boost the eco-museums' capability to meet the evolving expectations of relevant stakeholders.

From a practical perspective, the research findings suggest that both managerialization and professionalization are needed in the recipe for the eco-museums' digital transformation. They enact parallel effects on the digital turn of cultural institutions, stimulating a larger presence of eco-museums in the cyber-physical context. Since they nurture a strategic focus on the enhancement of the visitors' experience, managerialization and professionalization are able to disrupt the resistances to change that tie cultural institutions to conventional management models. From this standpoint, managerialization and professionalization are expected to perform as stimuli to institutional and organizational change, inspiring a digital reconfiguration of eco-museums' structures and activities.

7. References

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Table 1. The study sample (n = 126)

Variable	Total	
	No.	%
Geographical location		
North-western Italy	47	37.3
North-eastern Italy	27	21.4
Central Italy	30	23.8
Southern Italy	7	5.6
Main Italian Islands	15	11.9
Subject area		
Ethnography and anthropology	40	31.7
Local historical heritage	21	16.7
History	19	15
Archaeology	12	9.5
Modern and contemporary arts	11	8.7
Other	23	18.4
Year of foundation		
1949 or earlier	5	4
Between 1950 and 1969	4	3.2
Between 1970 and 1989	19	15.1
Between 1990 and 1999	36	28.6
2000 or later	62	49.1
Ownership		
Publicly owned	81	64.4
Privately owned	45	35.6
Number of employees		
1 employee	17	13.5
Between 2 and 5 employees	52	41.3
Between 6 and 10 employees	24	19
Between 11 and 25 employees	15	11.9
26 employees and above	1	0.8
Do not know/Do not answer	17	13.5
Exposition area (square meters)		
50 and less	18	14.3
Between 51 and 500	62	49.2
Between 500 and 1,000	16	12.7
Between 1,001 and 2,500	18	14.3
2,501 and more	9	7.1
Do not know/Do not answer	3	2.4

Table 2. The outcome of serial mediation models

Model 1: Direct and indirect effects of Man on DP				Model 2: Direct and indirect effects of Man on DS					
Model summary	R2 = 0.3271	DFs = 102	p = 0.0000	Model summary	R2 = 0.3406	DF2 = 102	p = 0.0000		
<i>Direct effect</i>				<i>Direct effect</i>					
Explanatory variables	Coeff.	SE	Prob.	Explanatory variables	Coeff.	SE	Prob.		
Const.	0.1047	0.3218	0.7457	Const.	-0.3897	0.3561	0.2764		
Man*	0.1511	0.0756	0.0482	Man	0.1199	0.0836	0.1547		
PC	0.1361	0.0836	0.1067	PC	0.1807	0.0926	0.0537		
VE***	0.2429	0.0886	0.0072	VE***	0.4010	0.0981	0.0001		
Dimension (1 = large)	0.2632	0.1696	0.1238	Dimension (1 = large)	0.0317	0.1877	0.8662		
Ownership (1 = public)	0.1031	0.1661	0.5632	Ownership (1 = public)	-0.1299	0.1838	0.4816		
Geographical location (1 = Northern Italy)*	0.3227	0.1580	0.0436	Geographical location (1 = Northern Italy)	0.2793	0.1748	0.1131		
<i>Indirect effects</i>				<i>Indirect effects</i>					
Path	Effect	Boot SE	Boot LLCI	Boot ULCI	Path	Effect	Boot SE	Boot LLCI	Boot ULCI
Man -> PC -> DP	0.0569	0.0370	-0.0292	0.1699	Man -> PC -> DS	0.0755	0.0440	-0.0326	0.2019
Man -> VE -> DP**	0.0710	0.0336	0.0015	0.1703	Man -> VE -> DS**	0.1173	0.0450	0.0202	0.2515
Man -> PC -> VE -> DP	0.0167	0.0137	-0.0081	0.0702	Man -> PC -> VE -> DS	0.0276	0.0198	-0.0130	0.0932
Total indirect effect of Man on DP**	0.1447	0.0526	0.0174	0.2997	Total indirect effect of Man on DS**	0.2204	0.0612	0.0647	0.3861
Model 3: Direct and indirect effects of Prof on DP				Model 4: Direct and indirect effects of Prof on DS					
Model summary	R2 = 0.3482	DF = 102	p = 0.0000	Model summary	R2 = 0.3279	DF = 102	p = 0.0000		
<i>Direct effect</i>				<i>Direct effect</i>					
Explanatory variables	Coeff.	SE	Prob.	Explanatory variables	Coeff.	SE	Prob.		
Const.	0.1906	0.3191	0.5515	Const.	-0.4240	0.3622	0.2445		
Prof**	0.1870	0.0686	0.0076	Prof	-0.0238	0.0779	0.7602		
PC	0.1480	0.0783	0.0616	PC***	0.2390	0.0889	0.0084		
VE*	0.2167	0.0879	0.0154	VE***	0.4603	0.0998	0.0000		
Dimension (1 = large)	0.1923	0.1710	0.2635	Dimension (1 = large)	0.0833	0.1941	0.6500		
Ownership (1 = public)	-0.0054	0.1701	0.9747	Ownership (1 = public)	-0.0945	0.1931	0.6257		
Geographical location (1 = Northern Italy)	0.3683*	0.1560	0.0202	Geographical location (1 = Northern Italy)	0.2809	0.1771	0.1158		
<i>Indirect effects</i>				<i>Indirect effects</i>					
Path	Effect	Boot SE	Boot LLCI	Boot ULCI	Path	Effect	Boot SE	Boot LLCI	Boot ULCI
Prof -> PC -> DP	0.0456	0.0247	-0.0209	0.1180	Prof -> PC -> DS	0.0735	0.0349	-0.0029	0.1865
Prof -> VE -> DP**	0.0614	0.0275	0.0037	0.1506	Prof -> VE -> DS**	0.1304	0.0449	0.0321	0.2673
Prof -> PC -> VE -> DP	0.0137	0.0092	-0.0014	0.0480	Prof -> PC -> VE -> DS	0.0291	0.0159	-0.0037	0.0844
Total indirect effect of Prof on DP**	0.1206	0.0362	0.0337	0.2256	Total indirect effect of Prof on DS**	0.2331	0.0511	0.1160	0.3822

***: Significant at the 0.001 level

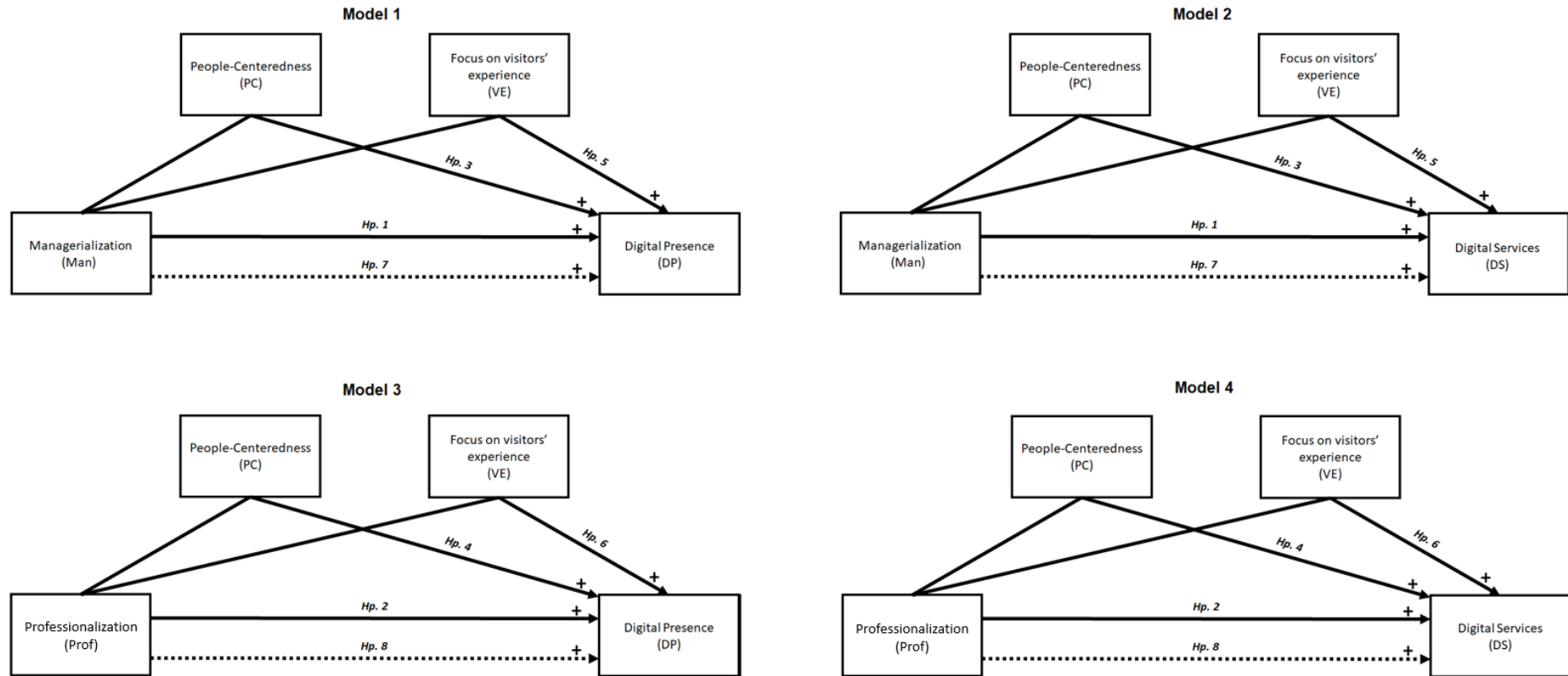
**: Significant at the 0.01 level

*: Significant at the 0.05 level

Table 3. The research hypotheses' testing

Hp #	Contents	Result	Key findings
Hp. 1	Managerialization triggers the eco-museums' digitization	Partially supported	Whilst managerialization was found to positively and significantly affect the digital presence of eco-museums, it did not influence their propensity to deliver digital cultural services to visitors
Hp. 2	Professionalization positively affects the digital transformation of eco-museums	Partially supported	Professionalization triggered a greater digital presence of eco-museums. However, it did not increase the predisposition of eco-museums to exploit ICTs and digital tools to deliver cultural services
Hp. 3	People-centredness positively mediates the relationship between managerialization and the eco-museums' digital transformation	Not Supported	People-centredness was not found to perform as a significant mediator in the relationship between managerialization and digitization
Hp. 4	People-centredness positively mediates the relationship between professionalization and the eco-museums' propensity to undertake a digital transformation	Not Supported	People-centredness was not found to perform as a significant mediator in the relationship between professionalization and digitization
Hp. 5	The focus on visitors' experience positively mediates the relationship between managerialization and the digital transformation of eco-museums	Supported	A strategic focus on visitors' experience positively and significantly mediated the relationship between managerialization and digitization, boosting the digital presence of eco-museums and enhancing their web-based service delivery process
Hp. 6	The focus on visitors' experience positively mediates the relationship between professionalization and the propensity of eco-museums to undertake a digital transformation	Supported	A strategic focus on visitors' experience positively and significantly mediated the relationship between professionalization and digitization, stimulating the recontextualization of eco-museums' presence in the digital domain and sustaining the delivery of digital cultural services
Hp. 7	People-centredness and the focus on visitors' experience serially mediate the relationship between managerialization and the digital transformation of eco-museums	Not supported	Even though the serial mediation effect was not statistically significant, the total indirect effect of mediators on the relationship between managerialization and digitization was positive and significant
Hp. 8	People-centredness and the focus on visitors' experience serially mediate the relationship between professionalization and the propensity of eco-museums to undertake a digital transformation	Not supported	Even though the serial mediation effect was not statistically significant, the total indirect effect of mediators on the relationship between professionalization and digitization was positive and significant

Figure 1. Graphical representation of the statistical models



Legenda:

