

Digital Transformation and Workforce Adaptation in Public Museums: An Institutionally Embedded Skills Gap Perspective from Vietnam

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Article History	Abstract
Original Research Article	<p><i>This article examines workforce adaptation and skills gaps in public museums through the case of Ho Chi Minh City, Vietnam, within the broader context of digital transformation and the shift toward audience-centred cultural institutions. Drawing on skills mismatch theory, competency-based human resource development (HRD), museum studies, and public-sector management literature, the study conceptualizes the skills gap as an institutionally embedded phenomenon rather than a purely individual deficiency. Using a qualitative case study approach based on policy documents, institutional reports, and academic literature, the analysis identifies five major areas of skills gaps: (1) the transition from specialized to multi-functional professional roles, (2) digital competence, (3) audience engagement and museum education, (4) curatorial and interpretive capacity, and (5) institutional and HRD capacity. These gaps reflect a growing misalignment between emerging competency requirements—such as digital literacy, public communication, experiential learning, and adaptive management—and existing workforce capacities shaped by traditional training models and public-sector employment structures. The findings show that public museums face not only technical and professional challenges but also institutional constraints related to recruitment systems, job classifications, financial autonomy, and training mechanisms. In response, the article proposes a strategic HRD framework that emphasizes competency modeling, continuous skills assessment, organizational learning, and cross-sector collaboration. The study contributes to the literature by extending skills mismatch theory into the cultural sector and by introducing the concept of the institutionally embedded skills gap. It also provides practical implications for workforce development and policy reform in Vietnam and similar Global South public-sector cultural contexts.</i></p> <p>Keywords: Digital transformation, Human resource development (HRD), Public museums, Skills gap, Vietnam.</p>
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1. Introduction

In recent decades, museums worldwide have undergone significant transformation, shifting from traditional “collection-centred” institutions toward more “audience-centred, inclusive, and socially engaged” organizations. This transformation has been formally recognized in the 2022 definition of museums by the International Council of Museums (ICOM), which emphasizes accessibility, diversity, participation, sustainability, and service to society. Rather than functioning solely as repositories of objects and knowledge, contemporary museums are increasingly expected to act as dynamic cultural spaces that

foster dialogue, learning, and community engagement (Brown & Mairesse, 2018; Robinson, 2021). This shift has profound implications for how museum work is organized and, critically, for the types of skills required of museum professionals.

One of the most important drivers of this transformation is digitalization. The integration of digital technologies into museum operations—from collection digitization and data management to online exhibitions and social media engagement—has redefined how museums create, interpret, and disseminate knowledge (Parry, 2010;

Giannini & Bowen, 2019). At the same time, there has been a growing emphasis on audience development, experiential learning, and public participation, requiring museums to design more interactive, inclusive, and meaningful visitor experiences (Falk & Dierking, 2013; Hooper-Greenhill, 2007). Together, these trends have expanded the scope of museum work, creating new roles that combine curatorial expertise with communication, education, digital production, and community facilitation.

However, these transformations have also generated a critical challenge: a widening skills gap within museum workforces. Drawing on the broader literature on skills mismatch, this gap can be understood as the misalignment between existing workforce capabilities and the competencies required in evolving professional contexts (McGuinness et al., 2018; OECD, 2019). In the museum sector, this mismatch is particularly evident as staff trained under traditional models of museology are increasingly expected to perform multi-functional roles involving digital technologies, audience engagement, and adaptive organizational practices. As a result, the skills gap is not merely a technical issue but reflects deeper structural changes in the nature of museum work.

Despite growing international attention to museum workforce transformation, important gaps remain in the literature. First, much of the existing research is concentrated in Europe and North America, with relatively limited empirical evidence from Global South contexts. Yet, museums in these regions often operate under distinct socio-economic conditions, institutional arrangements, and resource constraints. Second, current studies tend to focus on professional skills and training while paying less attention to the role of public-sector institutional structures—such as recruitment systems, job classifications, financial autonomy, and governance frameworks—in shaping workforce development. These institutional factors are particularly significant in countries where public museums function as state-managed entities.

This article addresses these gaps by examining the case of public museums in Ho Chi Minh City, Vietnam. As the country's largest urban and cultural centre, Ho Chi Minh City hosts a diverse system of public museums and is at the forefront of digital transformation, cultural industry development, and public-sector reform. At the same time, local policy documents highlight increasing pressure to improve the quality of museum human resources and enhance digital and audience-oriented capacities. This makes the city a relevant and timely case for analyzing how skills gaps emerge in practice.

The article makes three main contributions. Empirically, it provides one of the few in-depth analyses of museum workforce transformation in a Global South urban context.

Conceptually, it introduces the notion of an *institutionally embedded skills gap*, emphasizing that skills mismatches are shaped not only by individual competencies but also by institutional constraints within the public sector. Finally, it proposes a strategic human resource development (HRD) framework to help public museums bridge these gaps by aligning competency development with organizational transformation and policy conditions.

2. Literature Review

2.1. Skills mismatch theory

Skills mismatch theory provides a useful starting point for examining workforce adaptation in public museums. In broad terms, skills mismatch refers to the misalignment between the competencies possessed by workers and the skills required by their jobs. McGuinness et al. (2018) distinguish different forms of mismatch, including overqualification, underqualification, field-of-study mismatch, and gaps between acquired and required skills. This framework is particularly relevant to museums because employees may possess formal qualifications in history, culture, heritage studies, or administration, while their actual work increasingly requires digital communication, public education, data management, audience research, and adaptive project-based collaboration.

Green (2013) further emphasizes that “skills” should not be reduced to formal qualifications alone but include knowledge, autonomy, judgment, and the ability to perform complex tasks in changing environments. This broader understanding is particularly relevant for museum work, where competencies are often interpretive, relational, and context-dependent rather than purely technical.

The OECD's work on skills and lifelong learning further emphasizes that digital transformation changes the demand for skills across sectors. The OECD Skills Outlook 2019 argues that workers increasingly need digital literacy, problem-solving capacity, adaptability, and continuous learning in order to thrive in a digital world. The OECD Skills Outlook 2021 similarly stresses the importance of lifelong learning systems that allow workers to update competencies throughout their careers (OECD, 2021). Cedefop (2015) also shows that skills mismatch is not merely an individual problem but an institutional and organizational issue shaped by education systems, workplace learning, and labor market structures. These insights are important for museums because the skills gap cannot be reduced to the weakness of individual staff members. It is also produced by the slow adaptation of training systems, job structures, and human resource policies to new forms of cultural work.

2.2. HRD and competency-based development

Human resource development (HRD) offers a second body of literature for understanding how organizations respond to changing skill requirements. Garavan et al. (2012) conceptualize talent development as a strategic process involving the identification, development, and deployment of human capabilities. Garavan et al. (2016) further connect strategic HRD with dynamic capabilities, arguing that organizations need to continuously renew their human resources in response to changing environments. This perspective is directly relevant to public museums, which must adapt to digital transformation, audience diversification, and new expectations around public value.

Ulrich et al. (2012) similarly argue that HR functions must evolve from administrative support roles toward strategic capability builders that align human capital with organizational transformation. This perspective reinforces the importance of HRD as a central mechanism for workforce adaptation in public museums.

Competency-based development deepens this perspective by offering tools for identifying and assessing the skills required for effective performance. McClelland (1973) challenged the traditional reliance on credentials and intelligence testing, arguing that competence should be evaluated through actual work performance. Boyatzis (1982, 2008) similarly conceptualizes competencies as the underlying characteristics that enable effective or superior performance. Campion et al. (2011) provide a practical model for competency development, showing how competency frameworks can support recruitment, training, performance evaluation, and career development.

For public museums, competency-based HRD is especially important because museum work has become more hybrid. Traditional professional knowledge remains necessary, but it must now be combined with digital, educational, communicative, interpretive, and managerial capacities. Therefore, HRD should not be understood as occasional staff training or administrative certification. Rather, it should be treated as a strategic mechanism for aligning workforce capabilities with institutional transformation.

2.3. Museum transformation

Museum studies literature has increasingly emphasized the changing identity and social role of museums. The 2022 ICOM definition of museums reflects this shift by emphasizing accessibility, inclusiveness, diversity, sustainability, ethical practice, and community participation. This definition moves beyond the older understanding of museums as primarily collection-centred institutions and instead frames them as public, social, and educational spaces. Robinson (2021), through a quantitative content analysis of proposals for the new

ICOM museum definition, shows that the debate around the museum concept increasingly foregrounds participation, social value, and public responsibility. Brown and Mairesse (2018) similarly argue that the museum's social role has become central to contemporary definitions of museum practice.

Brulon Soares (2020) highlights that redefining the museum in the twenty-first century involves significant conceptual tensions and compromises, reflecting competing expectations about heritage, participation, and social responsibility. Similarly, Candlin and Larkin (2020) argue that the museum should not be understood as a fixed institutional form but as a constantly negotiated and evolving entity shaped by social, cultural, and political contexts.

This transformation has major implications for museum workforces. Museums are no longer expected only to conserve objects and produce exhibitions; they are also expected to engage communities, promote cultural democracy, support learning, address inequality, and contribute to public dialogue.

Anderson (2019) connects these developments to broader movements toward cultural democracy, emphasizing the role of museums in enabling participation and shared cultural ownership.

Janes (2009, 2024) argues that museums must respond to social and ecological crises rather than remain neutral repositories of heritage. Sandell and Nightingale (2012) likewise connect museums with equality and social justice, suggesting that museum practice is increasingly shaped by ethical and civic responsibilities.

The Museums Association's reports further show that museum work now depends on attitudes, behaviours, transferable skills, wellbeing, and organizational support. Its documents on workforce skills and wellbeing emphasize that contemporary museum professionals need communication, collaboration, resilience, public engagement, and adaptive capacities.

More broadly, research on cultural and creative industries shows that cultural work is often shaped by structural inequalities and uneven access to opportunities, which can influence workforce composition and professional development pathways (Brook et al., 2020).

These developments suggest that workforce transformation is not peripheral to museum transformation; it is at the centre of how museums redefine their public role.

2.4. Digital transformation in museums

Digital transformation constitutes one of the most important forces reshaping museum work. Parry (2007, 2010) argues

that digital technologies do not simply add new tools to museums; they transform how museums collect, document, interpret, preserve, and communicate knowledge. Digital heritage requires new ways of thinking about collections, access, authority, participation, and institutional practice. Giannini and Bowen (2019) similarly show that museums and digital culture are now deeply interconnected, as digital platforms reshape relationships among collections, institutions, and publics.

The broader digital skills literature helps clarify what kinds of competencies are required. Van Laar et al. (2017) identify twenty-first-century digital skills as a combination of technical, information, communication, collaboration, creativity, critical thinking, and problem-solving skills. The DigComp 2.1 framework developed by Carretero Gomez et al. (2017) identifies key dimensions of digital competence, including information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. These dimensions are directly relevant to museum work. Museum professionals must increasingly manage digital collection data, create online content, communicate with audiences through digital platforms, design digital exhibitions, and evaluate digital engagement.

The World Bank (2016) emphasizes that digital transformation generates value only when technological investment is accompanied by the development of human capabilities.

However, digital transformation in museums should not be understood merely as the acquisition of equipment or the digitization of objects. It requires organizational learning and workforce adaptation. A museum may possess digital infrastructure but still lack the human capacity to use it effectively for interpretation, education, and audience engagement. Thus, digital transformation makes the skills gap more visible because it exposes the distance between technological ambitions and human resource readiness.

2.5. Public-sector constraints

The final body of literature concerns public-sector constraints. Public museums differ from private or independent cultural organizations because they operate within public administrative systems. Rainey (2014) emphasizes that public organizations are characterized by complex goals, formal procedures, political oversight, budget dependence, and accountability requirements. Pollitt and Bouckaert (2017) show that public management reform often seeks greater efficiency, autonomy, and performance orientation, but implementation is shaped by institutional traditions and administrative constraints. Hood's (1991) discussion of new public management also highlights the tension between managerial flexibility and public accountability.

These insights are highly relevant to public museums in Vietnam. Public museums function within the framework of state management, public service units, public employee regulations, financial autonomy policies, and cultural heritage legislation. Regulations on recruitment, job positions, salary structures, organizational restructuring, and public service delivery shape how museums hire, train, evaluate, and retain staff. The Vietnamese policy system also places increasing emphasis on digital transformation, cultural development, financial autonomy, and improvement of museum human resources. However, the capacity of museums to respond to these expectations may be constrained by rigid job classifications, limited training budgets, and insufficient flexibility in recruiting new types of expertise.

Taken together, these five bodies of literature suggest that workforce adaptation in public museums should be analyzed through an integrated framework. Skills mismatch theory explains the nature of the gap; HRD and competency theory explain how capabilities can be developed; museum transformation literature explains why new competencies are required; digital transformation literature specifies the emerging digital demands; and public-sector theory explains why adaptation may be institutionally constrained. This integrated perspective provides the basis for the conceptual framework developed in the next section.

3. Conceptual Framework

This study develops a conceptual framework that integrates insights from skills mismatch theory, competency-based human resource development (HRD), museum transformation literature, digital skills research, and public-sector management. The framework is designed to explain how skills gaps emerge in public museums and how they can be addressed within institutional constraints. Rather than viewing the skills gap as an isolated deficiency in individual competencies, the framework conceptualizes it as a dynamic outcome of the interaction between transformation pressures, workforce capacity, and public-sector institutional conditions.

3.1. Four domains of museum competencies

To operationalize the concept of skills gap, the study identifies four interrelated domains of competencies required in contemporary public museums.

First, *core museum skills* refer to traditional professional competencies such as collecting, documenting, conserving, researching, curating, exhibiting, and interpreting heritage. These skills remain foundational because they ensure the integrity, authenticity, and scholarly value of museum collections. However, as museum roles expand, these competencies alone are no longer sufficient.

Second, *audience-facing skills* capture the increasing importance of public engagement and education. These include museum education, communication, storytelling, visitor experience design, facilitation, and community engagement. As museums shift toward participatory and inclusive models, staff must be able to interact with diverse audiences, design learning experiences, and support cultural dialogue (Hooper-Greenhill, 2007; Falk & Dierking, 2013).

Third, *digital skills* reflect the growing impact of digital transformation on museum practices. These include digitization of collections, data management, digital content creation, online communication, and the use of digital platforms for audience engagement. Drawing on the digital skills literature (van Laar et al., 2017; Carretero Gomez et al., 2017), these competencies extend beyond technical proficiency to include the ability to integrate digital tools into interpretation, communication, and knowledge production.

Fourth, *strategic and adaptive skills* refer to higher-order competencies that enable museums to respond to changing environments. These include project management, partnership development, innovation, organizational learning, and strategic thinking. Such skills are essential in contexts where museums face pressures related to financial autonomy, policy reform, and cultural industry development.

Together, these four domains illustrate that contemporary museum work requires hybrid, multi-dimensional competencies. Skills gaps arise when workforce capabilities do not align with this expanded competency profile.

3.2. Analytical model of skills gaps in public museums

Building on these competency domains, the study proposes an analytical model that conceptualizes how skills gaps emerge in public museums.

At the first level, *transformation pressures* drive changes in skill requirements. These pressures include digital transformation, the shift toward audience-centred practices, the expansion of cultural and creative industries, and increasing expectations for public engagement and social impact. These factors redefine what museums do and, consequently, what competencies are required.

At the second level, *workforce capacity* reflects the existing qualifications, training, experience, and professional practices of museum staff. In many public museum systems, workforce capacity is shaped by historical training models and administrative structures that may not fully align with new demands.

The interaction between transformation pressures and workforce capacity produces the *skills gap*, defined as the mismatch between required competencies and existing capabilities. This gap may manifest across all four domains of skills, including digital, audience-facing, and strategic competencies.

Importantly, this process is shaped by the *institutional context*. Public museums operate within regulatory frameworks governing recruitment, employment, salary structures, financial autonomy, and organizational management. These institutional factors influence how museums can respond to new skill requirements and may constrain flexibility in workforce development.

Finally, the model highlights *HRD responses* as a key mechanism for addressing the skills gap. These include competency frameworks, skills assessment, targeted training, organizational learning, career pathways, and collaboration with external partners. HRD thus acts as a bridge between transformation pressures and workforce capacity, enabling museums to adapt within institutional constraints.

3.3. Theoretical contribution: Institutionally embedded skills gap

The central contribution of this framework is the concept of the *institutionally embedded skills gap*. This concept challenges the common assumption that skills gaps are primarily the result of individual deficiencies or insufficient training. Instead, it emphasizes that skills gaps in public museums are produced through the interaction between evolving professional requirements and institutional structures within the public sector.

In this perspective, the skills gap is not simply a matter of “lacking skills,” but a systemic mismatch between dynamic occupational demands and relatively stable organizational and regulatory frameworks. Public museums may recognize the need for new competencies, such as digital expertise or audience engagement skills, but their ability to develop these competencies is shaped by institutional constraints related to recruitment, training, funding, and career development.

By introducing this concept, the study contributes to both HRD and museum studies literature. It extends skills mismatch theory into the cultural sector and highlights the importance of institutional context in shaping workforce transformation. At the same time, it provides a theoretical foundation for understanding how strategic HRD can serve as a bridging mechanism between transformation pressures and institutional realities in public museums.

4. Methodology

4.1. Case study justification

This study adopts a qualitative case study approach to examine the skills gap in public museums, focusing on

Vietnam and, more specifically, Ho Chi Minh City. A case study design is appropriate because the research seeks to understand a complex, context-dependent phenomenon—the interaction between workforce competencies, institutional constraints, and transformation pressures—rather than to test predefined hypotheses across multiple settings.

Vietnam provides a particularly relevant context for this investigation. As a rapidly developing country undergoing economic transition and institutional reform, Vietnam has experienced significant changes in its cultural sector, including the promotion of cultural industries, digital transformation, and the modernization of public service units. Public museums in Vietnam are expected to preserve heritage while also contributing to education, tourism, and cultural development. However, they operate within a public-sector system characterized by state regulation, structured employment frameworks, and evolving policies on financial autonomy and organizational reform.

Ho Chi Minh City is selected as the focal case due to its position as Vietnam's largest economic and cultural centre. The city hosts a diverse network of public museums and has been at the forefront of policy initiatives related to digital transformation, cultural development, and workforce improvement. Local policy documents emphasize the need to enhance the quality of human resources in museums and to promote digitalization in cultural institutions. These conditions make Ho Chi Minh City an appropriate and information-rich case for examining how skills gaps emerge in public museums and how they are shaped by both transformation pressures and institutional constraints.

4.2. Data sources

The study draws on multiple qualitative data sources to ensure analytical depth and triangulation. First, policy documents and legal frameworks related to public-sector management, cultural development, and museum governance are examined. These include regulations on public employees, public service units, financial autonomy, and cultural heritage management. Such documents provide insight into the institutional context within which museum workforce development takes place.

Second, museum reports, professional publications, and sectoral analyses are used to capture current practices, challenges, and priorities in the museum system. These sources reflect how museums interpret policy expectations and respond to transformation pressures in practice. Third, the study engages extensively with academic literature on skills mismatch, human resource development, museum transformation, digital skills, and public-sector management. This body of literature provides the

theoretical foundation for interpreting empirical observations.

Where available, supplementary qualitative data—such as semi-structured interviews with museum professionals, policymakers, or stakeholders, as well as observational insights from professional engagement—can be incorporated to enrich the analysis. Although the study does not rely on large-scale quantitative data, the combination of policy, institutional, and scholarly sources allows for a robust and context-sensitive understanding of the skills gap.

4.3. Methods of analysis

The analysis is conducted using a combination of thematic analysis, competency mapping, and gap analysis. Thematic analysis is applied to identify recurring patterns, themes, and issues across the data sources. This approach enables the systematic coding and interpretation of qualitative material, focusing on how skill requirements, workforce capacities, and institutional conditions are articulated.

Competency mapping is then used to organize the findings according to the four domains of skills identified in the conceptual framework: core museum skills, audience-facing skills, digital skills, and strategic/adaptive skills. By aligning observed practices and expectations with these domains, the study identifies areas where competencies are relatively strong and areas where significant deficiencies exist.

Gap analysis is subsequently employed to examine the mismatch between required competencies and existing workforce capacities. This involves comparing the skill demands generated by transformation pressures—such as digital transformation, audience-centred practices, and organizational reform—with the current qualifications, training backgrounds, and professional practices of museum staff. Through this process, the study identifies both the types of skills gaps and their underlying causes.

To support systematic analysis, a coding framework is developed based on six categories: (1) traditional professional skills, (2) digital skills, (3) public engagement skills, (4) management and adaptive skills, (5) institutional barriers, and (6) HRD responses. These categories allow the study to capture the multidimensional nature of the skills gap and to link individual competencies with organizational practices and institutional conditions.

Taken together, this analytical framework conceptualizes skills gaps as institutionally embedded phenomena. Transformation pressures generate new competency requirements, which interact with existing workforce capacities to produce varying forms of mismatch. These gaps are further shaped by institutional conditions and are addressed, to different extents, through HRD strategies.

This integrated approach provides the foundation for the analysis presented in the following section.

5. Analysis: Emerging Skills Gaps in Ho Chi Minh City's Public Museums

This section analyzes the key workforce adaptation gaps emerging in Ho Chi Minh City's public museums. Building on the conceptual framework, the analysis identifies five

interrelated gaps: multi-functional role adaptation, digital competence, audience engagement, curatorial and interpretive capacity, and institutional HRD capacity. These gaps should not be interpreted as isolated weaknesses of individual museum staff. Rather, they reflect the broader mismatch between changing museum missions and existing workforce systems.

Table 1. Key skills gaps in public museums

Skills gap	Traditional emphasis	Emerging requirement	Nature of mismatch
Multi-functional gap	Specialized museum tasks	Hybrid professional roles	Narrow training vs expanded work roles
Digital gap	Basic IT use or object digitization	Digital curation, data, online engagement	Technology adoption vs digital capability
Audience gap	Guided tours and information delivery	Education, facilitation, visitor experience	One-way communication vs participatory learning
Curatorial gap	Object selection and display	Narrative, interpretation, experience design	Object-centred display vs meaning-making
Institutional gap	Administrative personnel management	Strategic HRD and flexible workforce planning	Public-sector rigidity vs adaptive capability

Source: Author's compilation.

5.1. Multi-functional gap

The first gap concerns the movement from specialized museum work to multi-functional roles. Traditionally, museum staff were trained and organized around core museum functions such as collecting, documenting, conserving, researching, exhibiting, and guiding visitors. These competencies remain essential because they sustain the professional legitimacy of museums as heritage institutions. However, contemporary public museums are expected to perform a much broader social and educational role. The 2022 ICOM definition emphasizes not only research, collection, conservation, and exhibition, but also accessibility, inclusiveness, diversity, ethical communication, and community participation. This expanded mission changes the expected profile of museum professionals.

In Ho Chi Minh City, public museums increasingly operate within a cultural environment shaped by tourism, digital transformation, public education, and urban cultural development. In this context, a museum officer may no longer be responsible only for researching objects or preparing exhibition content. The same staff member may also contribute to public communication, digital content, guided learning, event organization, collaboration with schools, and visitor experience design. This creates a hybrid role structure in which traditional disciplinary expertise must be combined with transversal skills.

From the perspective of skills mismatch theory, this is a form of occupational and transversal mismatch. Staff may possess relevant formal qualifications in history, cultural studies, museology, or administration, but these qualifications may not fully match the expanded competencies now required by museum work. Competency theory helps clarify the issue: as McClelland and Boyatzis argue, performance depends not only on credentials but also on the ability to demonstrate relevant capacities in changing work situations. Thus, the multi-functional gap reflects a mismatch between inherited professional preparation and the new complexity of museum roles.

5.2. Digital gap

The second gap concerns digital competence. Digital transformation is one of the strongest pressures reshaping public museums in Ho Chi Minh City. Local policy documents emphasize the need to promote digital transformation in the museum sector and improve the quality of cultural human resources. Yet the key challenge is not simply whether museums possess websites, computers, social media pages, or digitization equipment. The deeper issue is whether staff have the capability to use digital tools strategically for collection management, interpretation, communication, education, and audience engagement.

The digital skills literature is useful for identifying the nature of this gap. Van Laar et al. conceptualize twenty-

first-century digital skills as a combination of technical, informational, communicative, collaborative, creative, and problem-solving capacities. Similarly, the DigComp framework identifies digital competence as including information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. Applied to museums, this means that digital competence is not limited to scanning objects, uploading images, or posting announcements online. It involves metadata management, digital storytelling, online audience analysis, digital preservation, platform-based engagement, and user-centred digital interpretation.

This distinction is important because many digitization projects risk becoming technical rather than transformative. A museum may digitize parts of its collection without developing staff capacity to curate digital narratives, interpret collections online, or evaluate digital engagement. Parry’s work on digital heritage and Giannini and Bowen’s work on museums and digital culture both suggest that digitalization changes how museums produce, organize, and circulate knowledge. Therefore, the digital gap in Ho Chi Minh City’s public museums should be understood as a capability gap rather than merely an infrastructure gap.

Table 2. Digital competence gap in museum work

Museum task	Basic digital activity	Advanced digital competency needed
Collection digitization	Photographing or scanning objects	Metadata, standards, digital preservation
Online communication	Posting news or event information	Audience analytics, platform strategy
Digital exhibition	Uploading images and text	Interactive interpretation and UX design
Collection management	Maintaining inventory files	Database management and interoperability
Public engagement	Online publicity	Two-way digital interaction and feedback

Source: Author’s synthesis based on literature review and analysis.

5.3. Audience gap

The third gap relates to audience engagement and museum education. Contemporary museums are increasingly expected to serve diverse publics, including students, families, tourists, researchers, local communities, online visitors, and groups connected to specific forms of heritage. This requires museums to move beyond one-way communication toward participatory and experiential learning. Hooper-Greenhill argues that museums should be understood as educational institutions that shape knowledge through interpretation and communication. Hein’s constructivist view of museum learning and Falk and Dierking’s contextual model of museum experience further show that visitors actively construct meanings based on personal, social, and physical contexts.

This shift requires a new set of audience-facing skills: museum education, facilitation, storytelling, visitor research, inclusive communication, program design, and evaluation. The GEM Core Competencies for museum educators similarly emphasize the ability to understand learners, design meaningful programs, support access, and assess educational impact. However, in many museum systems, professional preparation remains stronger in collection-based knowledge than in public learning design.

In Ho Chi Minh City, this gap is particularly important because public museums are located in a dense ecosystem of schools, universities, domestic tourism, international tourism, and urban publics. The city’s museums are

expected to support cultural education, heritage appreciation, tourism development, and civic identity. Yet audience-centred work requires more than guided tours. It requires the capacity to design differentiated learning experiences for children, students, international visitors, local communities, and digital audiences. Where such competencies are underdeveloped, museums may remain open and active but fail to fully transform into participatory cultural learning spaces.

From the perspective of skills mismatch theory, the audience gap reflects a mismatch between museum staff’s traditional training and the pedagogical, communicative, and relational demands of contemporary museum work. From an HRD perspective, it shows the need for targeted learning pathways in museum education, public communication, and audience research.

5.4. Curatorial gap

The fourth gap concerns curatorial and interpretive capacity. In a traditional understanding, curatorial work may be associated with selecting objects, organizing displays, and ensuring historical or scholarly accuracy. These tasks remain important. However, contemporary curatorship increasingly involves narrative construction, ethical interpretation, public communication, community collaboration, and experience design. The curator is not only a guardian of objects but also a mediator of meanings.

This is especially relevant for public museums in Ho Chi Minh City, where collections often relate to urban history, war memory, revolutionary heritage, women’s history, fine arts, and local identity. Such themes require interpretation that is historically grounded but also socially meaningful, emotionally sensitive, and accessible to diverse audiences. Recent professional discussions in Ho Chi Minh City have explicitly emphasized the importance of curatorial work and its movement from contemporary practice toward creative futures . This indicates a growing recognition that the quality of museum exhibitions depends not only on collections but also on curatorial imagination and interpretive strategy.

The curatorial gap appears when exhibitions remain object-heavy or information-heavy, while contemporary audiences expect coherent narratives, layered interpretation, affective engagement, and opportunities for reflection. Literature on participatory museums and museum activism suggests that museums must become more dialogic, responsive, and socially engaged. Therefore, curatorial competence should include narrative design, ethical judgment, audience sensitivity, and the ability to connect collections with contemporary issues. Without this interpretive capacity, digitalization and audience engagement may remain superficial.

5.5. Institutional gap

The fifth and most fundamental gap is institutional. The previous four gaps cannot be explained solely by individual

staff limitations. They are shaped by the institutional environment in which public museums operate. Public museums in Vietnam function within the framework of state management, public service units, public employee regulations, financial autonomy policies, and cultural heritage legislation. Recruitment, salary structures, job classifications, organizational design, training budgets, and promotion pathways are all influenced by public-sector rules .

This institutional context can create stability and public accountability, but it can also constrain workforce adaptation. Museums may need digital curators, museum educators, audience researchers, communication specialists, data managers, or experience designers, but existing job structures may not formally recognize these roles. Similarly, salary and recruitment mechanisms may make it difficult to attract professionals with advanced digital, design, or communication skills. Training may be organized as administrative compliance rather than as strategic capability development.

Public management theory helps explain this tension. Rainey emphasizes that public organizations are shaped by multiple goals, formal procedures, and limited managerial flexibility. Hood and Pollitt and Bouckaert similarly show that public-sector reform often struggles to balance autonomy, accountability, and efficiency. In Ho Chi Minh City’s public museums, this means the skills gap is not only a training problem; it is also an institutional design problem.

Table 3. Institutional constraints and HRD responses

Institutional constraint	Effect on workforce adaptation	Possible HRD response
Fixed public job classifications	New roles are difficult to formalize	Update competency-based job descriptions
Limited salary flexibility	Difficulty attracting digital and creative talent	Project-based contracts and incentives
Fragmented training budgets	Training remains occasional	Dedicated museum HRD fund
Administrative evaluation	Skills not linked to performance	Competency-based appraisal
Financial autonomy pressure	Higher demand for revenue and audiences	Training in project and partnership management
Weak career pathways	Low motivation for upskilling	Professional development ladders

Source: Author’s synthesis based on literature and empirical analysis.

This institutional gap leads to the central claim of the article: the skills gap in Ho Chi Minh City’s public museums is an institutionally embedded skills gap. It emerges from the interaction between changing museum missions and relatively rigid public-sector HR systems. Addressing it therefore requires more than short-term training. It requires strategic HRD, updated competency frameworks, more flexible recruitment mechanisms, and

stronger alignment between museum transformation and public-sector workforce policy.

6. Discussion

6.1. Theoretical implications

The analysis contributes to the literature by extending skills mismatch theory into the cultural sector, particularly the field of public museum management. Much of the skills

mismatch literature has focused on education–labor market alignment, wage effects, digital labor markets, and general workforce development. While this body of scholarship is highly useful, it has paid less attention to cultural institutions, where skills are often complex, relational, symbolic, and difficult to measure through conventional labor market indicators. The case of public museums in Ho Chi Minh City shows that skills mismatch in the cultural sector is not simply a question of whether employees are overqualified, underqualified, or trained in a different field. It also involves the misalignment between inherited professional identities and newly emerging forms of cultural work.

This study therefore broadens the concept of skills mismatch by showing that museum skills are multidimensional. They include technical museum expertise, digital capability, public engagement, curatorial interpretation, emotional sensitivity, and adaptive management. These skills cannot be understood only through formal qualifications or job titles. A museum professional may possess strong disciplinary knowledge but still face difficulty in designing digital exhibitions, evaluating visitor experiences, facilitating community dialogue, or managing cross-sector projects. This suggests that skills mismatch in museums should be analyzed as a qualitative and organizational phenomenon, not merely as a measurable labor market imbalance.

A second theoretical contribution lies in adding an institutional dimension to skills mismatch. The findings show that the gap between existing and required competencies is shaped by public-sector structures: recruitment rules, job classifications, salary systems, training budgets, career pathways, and financial autonomy mechanisms. Thus, the skills gap is not only located in the individual worker but also embedded in the organization and its governing environment. This supports the concept of the *institutionally embedded skills gap*, which captures the interaction between transformation pressures and institutional constraints. The concept is especially useful for analyzing public museums in Global South contexts, where heritage institutions often face simultaneous pressures to modernize, digitalize, diversify audiences, and operate within rigid administrative frameworks.

6.2. Reframing museum workforce

The findings also suggest the need to reframe the museum workforce. Public museum staff should no longer be understood only as collection managers, curators, conservators, researchers, or guides. Contemporary museum work increasingly produces hybrid roles that combine traditional professional knowledge with digital, educational, communicative, social, and managerial competencies. A staff member may be expected to research

collections, prepare interpretive content, support exhibitions, communicate with audiences, participate in digital projects, coordinate educational activities, and collaborate with external partners. This hybridity challenges older occupational structures and requires a more flexible understanding of museum professionalism.

The concept of hybrid roles also helps explain why the skills gap is experienced as workload pressure. When new tasks are added to traditional responsibilities without corresponding changes in staffing, training, or recognition, adaptation becomes burdensome. In such cases, workforce transformation may be achieved informally through individual effort rather than systematically through HRD. This may create hidden forms of professional strain.

Emotional labour is also important in reframing museum work. Hochschild's concept of emotional labour refers to the management of feeling as part of paid work. In museum settings, Munro shows that community engagement practitioners often perform significant emotional labour as they negotiate relationships, expectations, conflict, care, and inclusion. This is highly relevant to contemporary public museums because audience-centred and socially engaged work requires staff to mediate between institutions, collections, communities, memories, and public emotions. For museums dealing with war memory, urban change, identity, inequality, or community heritage, public engagement is not merely a technical communication task. It involves empathy, ethical sensitivity, listening, trust-building, and emotional management.

Therefore, workforce adaptation should not be reduced to digital upskilling alone. Digital skills are essential, but they must be placed alongside interpretive, relational, educational, and emotional competencies. This broader view is important for Ho Chi Minh City's public museums because their transformation depends not only on technological modernization but also on their ability to become more meaningful, inclusive, and responsive cultural institutions.

6.3. HRD as a system solution

The analysis indicates that strategic HRD should be treated as a system-level response to the museum skills gap. If the gap is institutionally embedded, then isolated training programs are insufficient. Public museums need a competency-based HRD system that links workforce planning, recruitment, training, performance evaluation, mentoring, and career development. Competency frameworks can help define what skills are required for different museum roles and provide a basis for identifying gaps, designing training, and evaluating progress. This aligns with Champion et al.'s argument that competency

modeling can support multiple HR functions and with Garavan et al.'s view of HRD as a strategic process for developing dynamic organizational capabilities.

However, competency-based HRD should not become a rigid checklist. Museum work is interpretive, creative, and relational; therefore, competency frameworks should be flexible enough to capture both technical and soft dimensions of professional practice. For example, digital competence should include not only technical operation but also digital storytelling, audience analytics, and ethical data use. Audience engagement competence should include not only communication but also facilitation, inclusion, and emotional intelligence. Curatorial competence should include not only object knowledge but also narrative construction and public interpretation.

The idea of the learning organization offers a complementary perspective. Senge argues that organizations adapt through shared vision, team learning, systems thinking, and continuous development. Public museums need to become learning organizations in order to respond to digital transformation and audience change. This requires internal knowledge sharing, reflective practice, peer learning, and cross-departmental collaboration. In museums, much professional knowledge is tacit: how to interpret sensitive objects, communicate with visitors, negotiate community relationships, or design meaningful exhibitions. Nonaka and Takeuchi's knowledge creation theory is therefore especially relevant. Their distinction between tacit and explicit knowledge suggests that museums should create mechanisms for converting individual experience into organizational learning.

In practical terms, this means developing communities of practice, mentoring systems, internal seminars, project-based learning, and collaborative partnerships with universities, technology companies, tourism actors, and communication professionals. HRD should not be treated as an auxiliary administrative function, but as a central mechanism through which public museums build adaptive capacity. By linking competency development with organizational learning and knowledge creation, public museums can move from reactive adjustment to strategic workforce transformation.

7. Policy Implications

The findings have several implications for Vietnam's public museum system. First, job structures in public museums need to be updated to reflect the changing nature of museum work. Existing position frameworks should not be limited to traditional roles such as collection management, conservation, research, exhibition, and guiding. They should also formally recognize emerging roles such as digital curator, museum educator, audience

researcher, digital content producer, community engagement officer, data manager, and visitor experience designer. Without such recognition, new tasks will continue to be absorbed informally by existing staff, creating workload pressure without building professional depth.

Second, public museums require greater human resource autonomy. Financial autonomy without corresponding HR autonomy may generate pressure for innovation, revenue diversification, and audience development without giving museums sufficient flexibility to recruit, reward, or retain the skills needed for these new demands. Within the Vietnamese public-sector framework, this does not necessarily mean full marketization of museum employment. Rather, it suggests the need for more flexible mechanisms, such as project-based expert contracts, short-term specialist recruitment, joint appointments with universities, and professional collaboration with technology, tourism, communication, and creative-industry partners.

Third, Vietnam needs a more systematic training system for museum workforce development. Current training should move beyond periodic administrative certification toward competency-based professional development. Training programs should include digital collections, metadata management, digital storytelling, museum education, public engagement, curatorial interpretation, visitor studies, project management, and partnership development. Universities and cultural training institutions should also update museum studies and cultural management curricula to include digital and audience-oriented competencies. A national or municipal museum HRD fund could support continuous training, exchange programs, mentoring, and professional certification.

Beyond Vietnam, the study has broader implications for Global South museums and public-sector cultural organizations. Many museums in developing and transitional contexts face similar pressures: digitalization, audience diversification, limited resources, public accountability, and administrative constraints. The concept of the *institutionally embedded skills gap* helps explain why workforce adaptation in such contexts cannot be solved by training alone. It requires policy alignment, institutional flexibility, and long-term capability building. Public-sector cultural organizations more generally—such as libraries, archives, cultural centres, and heritage agencies—may also benefit from this framework because they face similar tensions between public missions, technological change, and rigid HR systems.

8. Conclusion

This article has examined digital transformation and workforce adaptation in public museums through the case

of Ho Chi Minh City, Vietnam. The analysis shows that public museums are facing a multidimensional skills gap as they move from collection-centred institutions toward more digital, audience-oriented, and socially engaged cultural organizations. The gaps identified include multi-functional role adaptation, digital competence, audience engagement, curatorial interpretation, and institutional HRD capacity.

The study argues that these gaps should not be interpreted as individual shortcomings of museum staff. Rather, they are produced through the interaction between changing museum missions and public-sector institutional structures. Recruitment rules, job classifications, salary systems, limited training resources, financial autonomy mechanisms, and administrative evaluation systems all shape the capacity of museums to adapt. For this reason, the article conceptualizes the problem as an *institutionally embedded skills gap*.

The article makes three main contributions. First, it extends skills mismatch theory into the field of museum and cultural-sector studies. Second, it adds an institutional dimension to discussions of museum workforce transformation, especially in Global South and public-sector contexts. Third, it proposes strategic HRD as a system-level response, linking competency-based development, organizational learning, and knowledge creation.

The study has limitations. It is based primarily on qualitative document analysis and conceptual synthesis rather than large-scale survey or interview data. Future research should therefore conduct empirical assessments of museum workforce competencies, including surveys, interviews, and comparative case studies. Comparative research across Southeast Asian cities would be especially valuable for identifying shared patterns and local variations in public museum workforce adaptation.

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References

1. Anderson, M. (2019). Towards cultural democracy: Museums and their communities. *Museum International*, 71(1–2), 140–149. <https://doi.org/10.1080/13500775.2019.1638070>
2. Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. Wiley.
3. Boyatzis, R. E. (2008). Competencies in the 21st century. *Journal of Management Development*, 27(1), 5–12. <https://doi.org/10.1108/02621710810840730>
4. Brook, O., O'Brien, D., & Taylor, M. (2020). *Culture is bad for you: Inequality in the cultural and creative industries*. Manchester University Press.
5. Brown, K., & Mairesse, F. (2018). The definition of the museum through its social role. *Curator: The Museum Journal*, 61(4), 525–539. <https://doi.org/10.1111/cura.12276>
6. Brulon Soares, B. (2020). Defining the museum: Challenges and compromises of the 21st century. *ICOFOM Study Series*, 48(2), 16–32. <https://doi.org/10.4000/iss.2325>
7. Champion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, 64(1), 225–262. <https://doi.org/10.1111/j.1744-6570.2010.01207.x>
8. Candlin, F., & Larkin, J. (2020). What is a museum? Difference all the way down. *Museum and Society*, 18(2), 115–131. <https://doi.org/10.29311/mas.v18i2.3147>
9. Carretero Gomez, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: The digital competence framework for citizens with eight proficiency levels and examples of use (EUR 28558 EN)*. Publications Office of the European Union. <https://doi.org/10.2760/38842>
10. Cedefop. (2015). *Skills, qualifications and jobs in the EU: The making of a perfect match? Evidence from Cedefop's European skills and jobs survey (Cedefop reference series No. 103)*. Publications Office of the European Union. <https://doi.org/10.2801/606129>
11. Falk, J. H., & Dierking, L. D. (2013). *The museum experience revisited*. Left Coast Press.
12. Garavan, T. N., Carbery, R., & Rock, A. (2012). Mapping talent development: Definition, scope and architecture. *European Journal of Training and Development*, 36(1), 5–24. <https://doi.org/10.1108/03090591211192601>
13. Garavan, T., Shanahan, V., Carbery, R., & Watson, S. (2016). Strategic human resource

- development: Towards a conceptual framework to understand its contribution to dynamic capabilities. *Human Resource Development International*, 19(4), 289–306. <https://doi.org/10.1080/13678868.2016.1169765>
14. Giannini, T., & Bowen, J. P. (Eds.). (2019). *Museums and digital culture: New perspectives and research*. Springer.
 15. Green, F. (2013). *Skills and skilled work: An economic and social analysis*. Oxford University Press.
 16. Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(1), 3–19. <https://doi.org/10.1111/j.1467-9299.1991.tb00779.x>
 17. Hooper-Greenhill, E. (2007). *Museums and education: Purpose, pedagogy, performance*. Routledge.
 18. Janes, R. R. (2009). *Museums in a troubled world: Renewal, irrelevance or collapse?* Routledge.
 19. Janes, R. (2024). *Museums and societal collapse: The museum as lifeboat*. Routledge.
 20. McClelland, D. C. (1973). Testing for competence rather than for “intelligence.” *American Psychologist*, 28(1), 1–14. <https://doi.org/10.1037/h0034092>
 21. McGuinness, S., Pouliakas, K., & Redmond, P. (2018). Skills mismatch: Concepts, measurement and policy approaches. *Journal of Economic Surveys*, 32(4), 985–1015. <https://doi.org/10.1111/joes.12254>
 22. OECD. (2019). *OECD skills outlook 2019: Thriving in a digital world*. OECD Publishing. <https://doi.org/10.1787/df80bc12-en>
 23. OECD. (2021). *OECD skills outlook 2021: Learning for life*. OECD Publishing. <https://doi.org/10.1787/0ae365b4-en>
 24. Parry, R. (2007). *Recoding the museum: Digital heritage and the technologies of change*. Routledge.
 25. Parry, R. (Ed.). (2010). *Museums in a digital age*. Routledge. <https://doi.org/10.4324/9780203716083>
 26. Pollitt, C., & Bouckaert, G. (2017). *Public management reform: A comparative analysis—Into the age of austerity* (4th ed.). Oxford University Press.
 27. Rainey, H. G. (2014). *Understanding and managing public organizations* (5th ed.). Jossey-Bass.
 28. Robinson, H. (2021). Debating the ‘museum’: A quantitative content analysis of international proposals for a new ICOM museum definition. *International Journal of Heritage Studies*, 27(11), 1163–1178. <https://doi.org/10.1080/13527258.2021.1960886>
 29. Sandell, R., & Nightingale, E. (2012). *Museums, equality and social justice*. Routledge.
 30. Ulrich, D., Younger, J., Brockbank, W., & Ulrich, M. (2012). HR talent and the new HR competencies. *Strategic HR Review*, 11(4), 217–222. <https://doi.org/10.1108/14754391211234940>
 31. van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior*, 72, 577–588. <https://doi.org/10.1016/j.chb.2017.03.010>
 32. World Bank. (2016). *World development report 2016: Digital dividends*. World Bank. <https://doi.org/10.1596/978-1-4648-0671-1>