Chapter 23
A Strategy Framework for Digital Heritage

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ABSTRACT

As digital heritage covers a very broad spectrum of human knowledge and expression, this chapter focuses primarily on the cultural heritage space. A three-box, three-layer strategy framework is proposed for managing innovation in digital heritage. The concept for this framework is derived from the Govindarajan Three-Box strategy framework. The three layers identify the major sets of challenges that a digital heritage ecosystem has to address. These are challenges directly relevant to a large museum, challenges in connecting with the broader ecosystem, and synergies with other ecosystems. Each layer is further divided into five components – technology, infrastructure, capabilities, content, services - for a clearer perception of the key drivers of innovation. A strategy framework for digital heritage should necessarily be open and adaptive yet cognizant of the drivers of innovation. These drivers ultimately determine the type of content and services that may be delivered to visitors and users. In the absence of a national digital heritage strategy, a surrogate framework may be used. A detailed Singapore case study of a surrogate framework, iGOV2010, is included for reference and learning.

INTRODUCTION

In recent years, information technology has permeated the administration of museums and the broader ambit of cultural heritage. Without doubt the irresistible adoption of IT solutions has reached a threshold of synergy with the physical collection and real world cultural activities. Museum collections are being re-incarnated as digital assets through the use of software and digital tools. Curators are being recast as digital asset managers working to re-purpose these assets for educational or commercial use. Cultural content both structured and unstructured grows exponentially, giving rise to unforeseen opportunities and new challenges to museum professionals and

private collectors alike. While traditional museum IT aimed to support daily administration, a newer generation of digital solutions is paving the way for borderless public sharing and engagement.

Information ecology in small museums, as Spinazze (2007) notes, is "characterized by locality...reflects the relationships between technology, people and practice...must evolve organically based on the needs of those inside" (p. 123). However, a large museum today is more likely to be connected beyond its local community and indeed may have a national, if not global, agenda. No longer is their audience limited to physical visitors. Furthermore, the pervasive worldwide web has ushered in the era of virtual participation and round-the-clock access to collections. Innovative digital content production tools and methods also enable the creation of a new generation of born-digital assets that can be shared around the world. Hence, for larger cultural organizations, information ecology has to embrace a digital inclusion where cultural capital can be "prosumed" by virtual visitors drawn together by continuously evolving Webx.0 services. A heritage information ecosystem today must necessarily encompass information, internet and wireless ecosystems.

For museum administrators and IT planners, identifying an optimal combination of content, applications and infrastructure can be a daunting challenge in the face of limited budgets and organizational resources. Richness of, and access to, content is being redefined by technology innovations developed elsewhere for other purposes. Applications are being rapidly obsolesced by changes and upgrades to the delivery infrastructure that are often motivated by broader government or business competitiveness agendas. Museum IT strategies are, hence, shaped as much by internal management objectives as by government agenda and independent development in other industries. Just as a museum's strategy document requires the inputs of diverse stakeholders within and beyond its brick-and-mortar boundaries, a digital heritage strategy has to transcend in-house capabilities and resources.

BACKGROUND

UNESCO's Charter on the Preservation of Digital Heritage states that "digital heritage consists of unique resources of human knowledge and expression. It embraces cultural, educational, scientific and administrative resources, as well as technical, legal, medical and other kinds of information created digitally, or converted into digital form from existing analogue resources. Where resources are 'born digital', there is no other format but the digital object. Digital materials include texts, databases, still and moving images, audio, graphics, software and web pages, among a wide and growing range of formats. They are frequently ephemeral, and require purposeful production, maintenance and management to be retained" (UNESCO, 2003). Article 2 of the Charter goes on to explain the need for accessibility and provision for privacy. The purpose of preserving the digital heritage, it notes, is to ensure that it remains accessible to the public. Accordingly, access to digital heritage materials, especially those in the public domain, should be free of unreasonable restrictions. At the same time, sensitive and personal information should be protected from any form of intrusion.

The UNESCO Charter recognizes that digital heritage is eclectic and multi-format. While much effort has already being put into digitization of existing museum and archival records, increasingly it will be the born-digital heritage assets that draw away museum's resources to manage, preserve and make accessible. The sheer diversity and volume of cultural heritage information being produced and exposed daily over the web poses long-term technological and administrative challenges in terms of storage, preservation, retrieval and data quality.

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