A Discourse on the Construction of a Service Innovation Model: Focus on the Cultural and Creative Industry Park

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1. Introduction

As the growth of the service industry sector in developed economies increases, more and more researchers have turned their attention to examining recent trends in service innovation. This has included rising interest in the driving forces of innovation, models, strategies, and organizations, and has subsequently led to various well-known models on driving forces and service innovation (Gallouj and Sundbo, 1998). However, the role of the Internet and web-based services and the growth in high-technology environmental services indicate that certain types of knowledge-intensive business services (KIBS) industries are now taking a more proactive lead role in the economy (Wei, 2004). Service-dominant logic and service science are useful frameworks that emphasize a service perspective on innovation (Michel et al., 2008). Moreover, non-technological service innovation is an emerging and challenging issue in innovation studies (Gallouj, 2002). Innovation must be viewed in a broader technological context where social dimensions are also considered (Edvardsson et al., 2000; Gustafsson and Johnson, 2003).

According to UNESCO's definition, cultural industries are based on tangible or intangible cultures. These industries follow conceptual formulation, production and manufacturing processes to create commercial products or services in the market. They usually have patent or copyright protections (UNESCO, 2000), and their products often have multiple meanings and functions when examined for their cultural content, creativity, busines models, employment growth, and future potential viewpoints. The definition of cultural creative industries in Taiwan includes visual arts, music and performing arts, cultural exhibition and performance facilities, industrial craft, motion pictures, radio broadcasting and television, publishing, advertising, design, brand and fashion design, architectural design, creative living, digital gaming & entertainment, and so on. In Taiwan, cultural creative industry products are considered to be activities originating from creativity, culture, art and design. They undergo intellectual property operations with the potential to generate profit and employment opportunities. The Taiwanese culture industry consists of 16 business categories with an accumulative sales turnover of USD$ 17.2 billion in 2009, up from USD$ 14.5 billion in 2002 (MOEA, 2005). Given the immense size of Taiwan's culture industry, this article focuses specifically on cultural facilities for exhibitions and performances.

Consequently, this paper concerns itself with potential insights from theories of innovation in creative industries (Miles and Green, 2008).

"Culture" plays an important role in the design field, and "cross cultural design" will be a key design evaluation point in the future (Lin, 2007). While cross-cultural factors become important issues for product design in the global economy, the intersection of E-business and creative industries becomes a key issue making both local design and the global market worthy of further in-depth study (Osterwalder and Y. Pigneur, 2002). The globalization of the economy and innovations in technology has led to the cooperation of various small enterprises in strengthening their competitive capability and their ability to cope with rising business challenges (Chen and Jaw, 2009). Value networks are increasingly being recognized as a future business paradigm, since they are capable of linking various enterprises together (Haglind and Helander, 2003; Wu, Liu and Chen, 2009). Such value networks need to be periodically updated with service innovations, enabled by evolving technologies.

Cultural parks aim to expose visitors to the experiences of the living historical stories of a people or landscape, so that they may feel immersed within a given culture. There is never a boundary between a cultural park and the surrounding local community. Many communities exist either within or very near cultural parks, and as a result, a cultural park requires unconventional management techniques, such as deeper and more frequent communication with local residents. Cultural parks represent the cultural atmosphere chronologically inherited within a regional space. This area of space is developed in the context of a cultural environment. It connects established settlements in the context of history and space to form the concept and direction of developing a cultural park, which serves the purpose of familiarizing residents with local history and the development of local culture. Domestic research concerning cultural parks in Taiwan is conducted mostly on the reutilization of vacant space, operational management, marketing activities, formation and transformation park zoning, industry selection and assessment, and the local culture industry. Some attention is also paid to the innovative services of culture parks (Chiu and Chu, 2010).

The aim of this paper is to contribute to service innovation research with special attention to non-technological dimensions. We believe that this area—the "soft side" of service innovation—is largely neglected despite its enormous importance. The term "soft" is used to stress innovation that is specifically related to people and organizations, markets and relationships, knowledge and integration, and meanings and experiences (Roberta & Marco, 2010). These are established and emerging dimensions that our research indicates as crucial in building a sustainable competitive advantage. To this end, we identify the dimensions of service innovations that are necessary for the further development of the cultural creative industry, especially a cultural creative industry park. Therefore, this study analyzes the progress of innovation activities in such a park and explores the value transformation and value repositioning from the service science point of view. In doing so, this paper proposes a new cultural industrial service innovation model that examines service innovation at the firm level within a Taiwanese cultural creative industry park.

In addition to this conceptual framework, we also analyze the impact of information and communication technologies on service innovation activities. Thus, we attempt to fill gaps within the existing literature by answering the following questions: 1) how do information

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and communication technologies impact service innovations activities; 2) and what are the soft innovations in the proposed service innovation model?

2. Theoretical background

2.1 Connotation of service innovation

Service innovation can generally be divided into product innovation, process innovation, transfer innovation, market innovation, technological innovation, organizational innovation, structural innovation, specialization innovation, and so on (Yu and Lei, 2005). Among these, product innovation, process innovation and transfer innovation are based on the innovation of application technology, and they are closely related with the development of technological innovation. However, many innovations are non-technical in nature, such as organizational innovation, structural innovation, and specialization innovation. This article holds that the within the service processes of enterprises, the actual connotations of innovative services are as follows: apply new ideas and new technologies to reform and change existing service processes and products, improve existing service quality and service efficiency, create new value for customers, and ultimately form a competitive advantage for service activities. In one of the latest approaches—the "integrative" view (Gadrey and Gallouj, 1998; Gallouj, 2002)—technology is integrated with other aspects of innovation. This integrative approach represents a synthesis of prior approaches (Coombs and Miles, 2000) attempting to overcome the traditional dichotomy between manufacturing and services (Sundbo and Gallouj, 2000). As a result, innovation cannot be restricted to the adoption of new technologies, but must instead be conceived as a creative use of technology in order to interpret the market or integrate the knowledge of supply chains (Tether and Metcalfe, 2003).

2.2 Models of service innovation

As the importance of the service sector within economies has increased, so too have the number of models of service innovation. Bilderbeek and other scholars (Bilderbeek, Hrtog, Marklund, Miles, 1998) have put forward a well-known four-dimensional model of service innovation based on experiences of service innovation in Europe (Figure 1). These four dimensions—new service concept, new client interface, new service delivery system, and technological options—help offer a wider perspective on innovation within the services industry, fully describe the content of service innovation, and provide guidance on the actual development of new services. Various corporate functions link different dimensions together, and in essence the four-dimensional model serves as a framework aimed at service enterprises developing new products.

In addition, several recent theoretical and multidisciplinary developments have contributed to new perspectives on service innovation, emphasizing culture and organization (Normann, 2001; Kandampully, 2002; de Jong and Vermeulen, 2003; de Vries, 2006), experiential dimensions (Pine and Gilmore, 1999; Schmitt, 1999), customer knowledge integration in the value creation processes (Preissl, 2000; Prahalad and Ramaswamy, 2004; Zeithaml et al., 2006; Edvardsson et al., 2007; Gro¨nroos, 2007), and interrelations and networks among organizations (van der Aa and Elfring, 2002; Gummesson, 2004; Love and Mansury, 2007; Tether and Tajar, 2008). In this article, we will emphasize and integrate all of these above-mentioned dimensions.
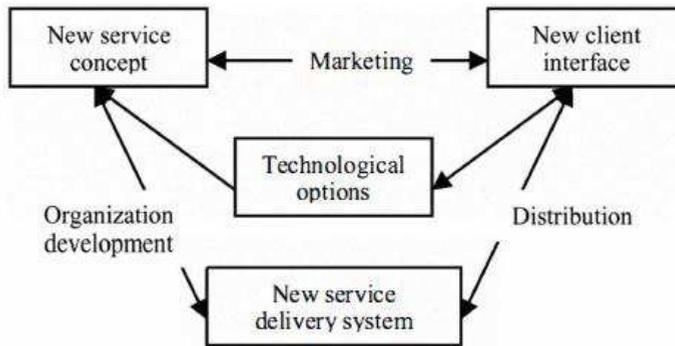
Fig. 1. The four dimensions model of the service innovation.

2.3 Cultural production system

Cultural production is the process by which cultural products (including goods, artifacts, visual and experiential objects, services, and art forms) are created, transformed, and diffused into the constitution of consumer culture (Lin, 2009; Lash and Urry, 1994/ 2002). A central premise of the cultural production process is that culture itself is constructed and negotiated by cultural actors (producers, intermediaries, consumers) through an interplay of symbolic and sensory modes of experience and the concomitant meaning systems in which the cultural actors are engaged (Venkatesh, Alladi and Laurie A. Meamber, 2006). According to the models set forth by Joy (1998, 2000), Kozinets (2001), McCracken (1988), and Solomon (1988), individuals and organizations involved in the production and diffusion of the arts and aesthetics contribute to the creation of symbolic meaning and the transfer of these meanings to cultural products.

Solomon (2003: 558–9) discusses a complementary conceptualization of the cultural production system (Figure 2). According to Solomon (2003), the set of individuals and organizations that create and market a cultural product is a cultural production system. The cultural production and distribution process entails relationships among a complex network of organizations that both facilitate and regulate the innovation process (Hirsch, 1972). A cultural industry system is comprised of all organizations engaged in the process of filtering new ideas as they flow from the creative subsystem to the managerial subsystem, communications subsystem, cultural gatekeepers, and lastly to consumers. The creative subsystem is responsible for generating new symbols or ideas. The managerial subsystem is responsible for selecting new ideas, making them tangible, mass producing these ideas, and then managing their distribution. The communications subsystem is responsible for giving meaning to the new ideas and providing them with symbolic sets of attributes that are communicated to consumers. Finally, cultural gatekeepers are responsible for filtering the overflow of information and materials intended for consumers (Solomon et al., 2002; Parsons, 1960; Solomon, 1988).

2.4 Service system

Creative industries are different from most other industries, in that their products are fundamentally intended to provoke particular kinds of responses from their users. To
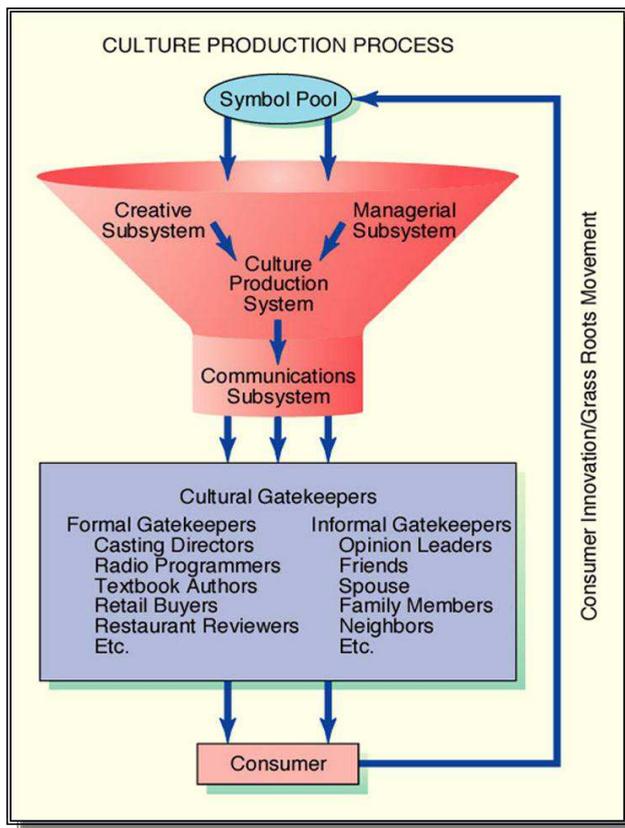
Fig. 2. The cultural production system.

varying degrees, these products enable experiences to be co-produced in tandem with consumers (Miles and Green, 2008). As a result, we seek to know how the theorization of the service system contributes to the understanding of cultural industrial park development. Service innovation is connected with changes in the service systems (Spohrer and Maglio, 2008). A service system is a value co-creation configuration (Maglio and Spohrer, 2008). It is an array of resources (including people, technology, organizations and shared information) connected to other systems by value propositions (Spohrer et al., 2007, 2008). Service systems include internal elements (e.g. employees), private systems and resources (friends and stockholders), and market systems and resources (suppliers and other economic exchanges). Suppliers and customers (together with other social and economic actors) compose "service systems," and are resource integrators on different levels. They interact through the mutual provision of services in order to co-produce (in the upstream value chain) and co-create value (downstream between the customer and the firm) in a "logic of togetherness" (Roberta & Marco, 2010). Value is co-created in service systems when resources are used. The role of the customers is not limited to consumption and merely being an operand resource as in mainstream marketing. Instead, customers are active (operant) resources in the value creation process and are always co-creators of value.

3. Model development

3.1 Data collection

The purpose of this research is to identify important constructs in service innovations, and understand the information and communication technology (ICT) roles of industrial services innovation management processes in the cultural and creative industry. Therefore, this paper evaluates research on innovative service models ranging from the more traditional technology model to modern service innovation models and the more recent integration model (Gallouj & Weinstein, 1997). Through the collection and integration of the literature related to service innovation, the cultural production system and the service system, we propose a new service innovation model for cultural and creative industries. We use in-depth interviews and secondary data analysis to assess the impact of ICTs on a cultural creative industry park at the National Taiwan University of Arts (NTUA). Two of our interviewers are industry experts who have worked for the IT professional institutions for more than 15 years and cooperated with NTUA on IT projects. The other three interviewers are teachers or experienced staff of related departments in the College of Design at NTUA. Building on these conceptual and theoretical roots, it is possible to develop a proposed framework for characterizing a service innovation model in cultural industries. To be useful, such a framework must be reasonably simple, logical, comprehensive, and operationally meaningful. In seeking generalization, the extant perspectives tend to oversimplify a firm's model. The challenge is to produce a framework that is applicable to firms in general but which serves the needs of the individual enterprise. Accordingly, the framework becomes a customizable tool that encourages the enterprise to focus on how value can be created by works of service innovation.

3.2 Constructing a conceptual model

The conceptual model of service innovation in cultural industries maps the following dimensions: new service concepts, new client interface, new service delivery system/organization, new services transformation system, and technological options. The five dimensions relate, respectively, to the knowledge of the characteristics of existing and competing services (business intelligence); the characteristics of actual and potential clients (market intelligence); the relationship with actors, co-production and the transformation of new services (management intelligence); the firm's capabilities, skills & attitudes with existing and competing service workers (human resource management); and available and supporting technological options (technological intelligence). These five dimensions are further explored below and in Figure 3.

1. New Service Concept：Some service innovations are highly visible, especially where delivery of the product is involved. However, frequently a new concept is not so much a physical product but a much more intangible characteristic like a new idea or concept on how to organize a solution to a problem. Although a particular service concept may already be familiar in other markets, the key thing is that it is novel in its application within a particular market.
2. New Client Interface：A second element of service innovations is the design of the interface between the service provider and its clients, and these interfaces are the focus of a good deal of service innovations. The communication between service suppliers and clients forms a major area for service innovation. Product offerings are increasingly
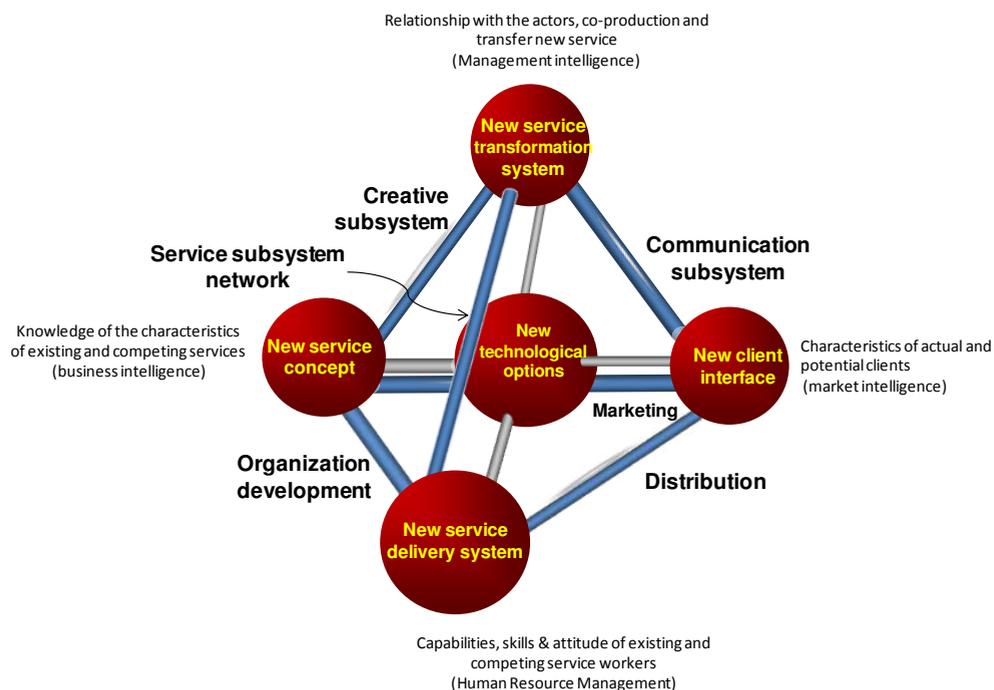
Relationship with the actors, co-production and
transfer new service
(Management intelligence)

New service transformation system

Creative subsystem

Service subsystem network

Communication subsystem

Knowledge of the characteristics
of existing and competing services
(business intelligence)

New service concept

New technological options

New client interface

Characteristics of actual and
potential clients
(market intelligence)

Marketing

Organization development

Distribution

New service delivery system

Capabilities, skills & attitude of existing and
competing service workers
(Human Resource Management)

Fig. 3. The five-dimension model of service innovation.

marketed and delivered electronically as far as they have informational components. In business services in particular, clients are often part and parcel of the production of the service product. This is particularly true where the business service itself is offering support for innovation, as for example in R&D and design services.

3. New Service Delivery System/Organization：The third dimension refers to the internal organizational arrangements that must be managed to allow service workers to perform their job properly and to develop and offer innovative services. It is closely related to the question of how to empower employees to facilitate them so that they can perform their jobs and deliver service products adequately.

4. New Services Transformation System： Based on cultural production systems within cultural industries, the new services transformation system involves the ways in which cultural product producers, cultural intermediaries, and consumers of culture interact and collaborate toward the end of producing symbolic meaning. These actors operate within the domain of art and aesthetics in everyday life embedded within consumer culture. It is through service subsystem (production and consumption processes) network operations in the cultural industry that aesthetic symbols, meanings and creativity are integrated. A communication subsystem involves creating and directing marketing communications to cultural gatekeepers (such as the media, a formal gatekeeper, and opinion leaders) and foreign networks. The subsystem can finally transform these offerings into new services by co-production with the above-mentioned actors. In a creative subsystem, aesthetic symbols attached to the cultural product

operate as a code, or language, that contributes to the understanding of meaning. The meaning system includes abstract ideas, values and ethics, and material objects and services that are produced or valued by a group of people (Solomon, 2003). In the ultimate analysis this meaning system is the sum of shared meanings, rituals, norms, and traditions among people (Geertz, 1973). The goods derived from cultural industries have an aesthetic or semiotic content (Scott, 2000). They have "an influence on our understanding of the world," "drawing on and helping to constitute our inner, private lives and our public selves" (Hesmondhalgh 2007: 3).

5. Technological Options：The fifth dimension is the center of much analysis and debate, especially concerning the degree to which service firms themselves are giving shape to technology development. Clearly, service innovation is possible without technological innovation: technology is not always a dimension. In practice there is a wide range of relationships between "technology" and "service innovation," varying from technology mainly playing a role as a facilitating or enabling factor, to something much closer to supply-push, technology-driven innovation.

4. Case study and analysis

4.1 Background

The Cultural Creative Industry Park was established by NTUA in the Fu-Jhou suburb of Banciao District in New Taipei City, only ten minutes walk from the main campus. There are four craft companies that are incorporated with the Innovation and Incubation Center of NTUA. Inside are additional ceramic and metal studios, with each studio providing hands-on workshops using different craft materials. The public can physically understand and experience fascinating crafts from ceramic, glass, metal and fabric. The goal of the cultural creative industry park is to combine artistic craftsmanship and economy with service design, and ultimately establish NTUA as a distinctive trademark of the park. To accomplish the goal, the "ABCDE Plan" was initiated by NTUA. The "ABCDE Plan" refers to one of the park's slogans, referenced in Figure 4: to turn "Art" into "Business," we need "Creativity" and "Design" (Lin, 2007, 2009, 2010), which allows the creative products to be transformed into "E-business." NTUA has established this link between art and business and combined creativity and design through three divisions: Our Museum, Our Studio and Our Factory. In particular, NTUA tries to use E-business (ICTs) to integrate design, culture, artistic craftsmanship, creativity, service innovation and customer preferences at the NTUA Cultural Creative Industry Park.

4.2 The five-dimension model demonstration

Below, we present the five dimensions that we believe are helpful in describing and analyzing service innovations. This model is not statistically tested, but should be interpreted as a tool to map and characterize various service innovations.

1. New Service Concept：*Our (Art) Museum.* To implement the ABCDE plan, NTUA established an art museum in 2007, known as "Our Museum," for the purpose of linking professional teaching with the museum's research, education, and display functions. At the same time the museum presents cultural and aesthetic content about art and artifacts to the public.
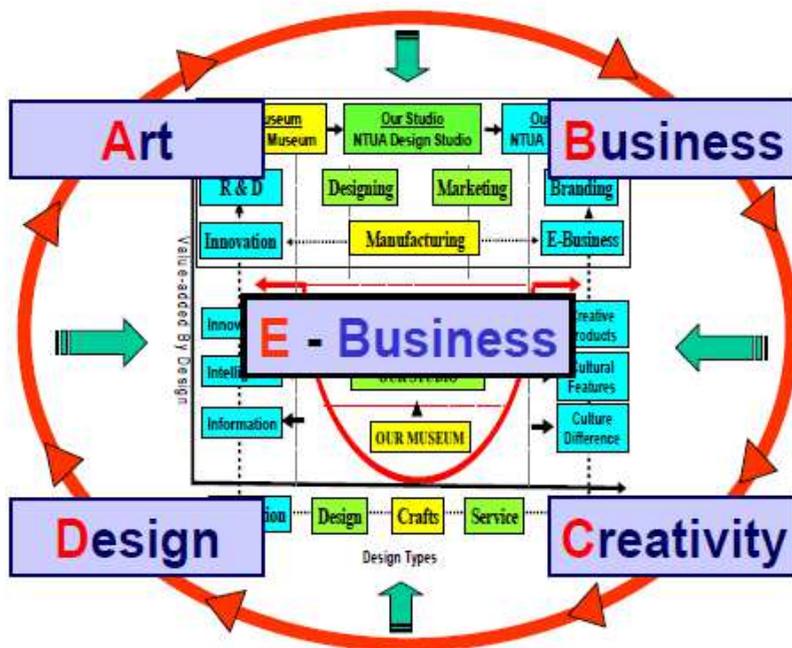
Fig. 4. The concept of the E-business model.

2. New Client Interfaces：*Our Factory*. Due to the challenging environment of cultural and creative industries, NTUA is devoted to developing its regional and international networks by operating a cultural creative industry park, known as "Our Factory." NTUA has established the link between "Art" and "Business." With this client interface, all small crafts, metal and ceramic companies can be incorporated into the Innovation and Incubation Center of NTUA.

3. New Service Delivery System/Organization：*Our (Design) Studio*. Developing craftsmanship and creativity as well as competences related to the arts are of strategic importance to NTUA. Therefore, a design studio, known as "Our Studio," was subsequently set up at the College of Design in NTUA with the purpose of providing innovative products. The college invests heavily in human resource management, including improving the capabilities and attitudes of both the students and craft workers.

4. New Services Transformation System：*Cultural production system.* Here, one example is the establishment of the NTUA Cultural Creative Industry Park with the cooperation of New Taipei City providing an innovative service through the *Holiday Cultural Bus Tour.* The *Holiday Cultural Bus Tour* is operated between NTUA main campus, the NTUA *Cultural Creative Industry Park,* and t*he Lin Family Mansion and Garden.* The major purpose is to promote the cultural creative development of Banciao District, where the university is located. The tour journeys first to The Lin Family Mansion and Garden for experiencing cultural aesthetics. Then, based on the structure of *Our Museum, Our Studio* and *Our Factory* of NTUA, tour participants can appreciate the art of *Our*

Museum, experience crafts in *Our Studio*, and purchase creative products from *Our Factory*. The purpose of this customer journey is to showcase the aesthetic experience by connecting design and culture so as to synthesize humanity, creativity, cultural production creativities, and technology. In this way, it achieves the aim of service design promotion in public (Hekkert & Leder, 2008; Hekkert et. al., 2003; Helander & Tham, 2003).

5. New Technological Options∶*Integrate all constructs to E-business*. Technology mainly plays a role as a facilitating or enabling factor in various innovations. Creativity and business are the elements for reaching an aesthetic economy, similar to the often-used concept of "Think Globally. Act Locally." These elements process the "Digital Archive" of Our Museum through the cultural creativities of Our Studio, producing cultural products in Our Factory in order to establish local industry-making aesthetic and economical products. The use of ICT channels could also reach a new factory, create new experiences for consumers and provide a co-production platform for designers and consumers. The majority of firms in NTUA Cultural Creative Industry Park become more effective by using technology-related techniques such as online access to art and knowledge databases, downloadable and streamed multimedia content (audio, video, podcasts), information systems (e.g. CAD, CAI, e-learning, co-design system, co-production system, and customer relationship management system), virtual museums, QR-code attachment for products, company dedicated websites, wireless connectivity enabling live feeding of information and tools, and so on. In the near future, the proposed ICT applications based on the digital archives at the NTUA Cultural Creative Industry Park will link to different dimensions, including: online exhibitions (text, image, audiovisual); virtual exhibitions (including 360-degree room views); real and imaginary exhibitions and gallery spaces; interactive gallery maps, games and play spaces for children and young people; multimedia tours; interactive kiosks; simulation and virtual reality experiences with sound, lasers and light shows; and IMAX presentations and "theme-park-like" attractions. Linking to these various dimensions will help NTUA reach new audiences and create new experiences for consumers.

To demonstrate the proposed five-dimension model, an integral example is the "cultural and creative fashion show" at the Cultural Creative Industry Park. This specific event combines aesthetics, creativity, fashion, technology, design, and commercial networks. Government officials are invited, and students, teachers, art personnel, and the cultural creative community are also involved. Students perform as the catwalk models to show their creative products, which are designed by themselves in Our Studio and supervised by professors and co-produced with Our Factory in the park. Moreover, students are able to communicate their inspiration and products to potential customers using this new style service. Through the creative stage and exhibition layout, the application of multimedia technology combined with creative products show that all participants can really feel involved in the aesthetics of art and life. As a result, the idea of turning "Art" into "Business" is realized, while the process is combined with "Creativity," "Design," and "E-business" to transform the aesthetic values into commerce by service innovation (Lin, 2007, 2009, 2010).

4.3 The roles of ICTs in service innovation

Although one of our foci is on non-technological innovation, we do not deny the importance of technology for innovation. It is important to understand the role technology plays in the

different dimensions of service innovation. In our case, it plays the role of: 1) enhancing the effectiveness of a particular strategy, 2) virtually integrating and widening the boundaries of the physical environment, 3) a platform for information distribution, and 4) value co-creation within the service systems networks.

4.3.1 Enhancing the effectiveness of a particular strategy

1. Enabling the exploitation of reach and richness
   The elements linking the Cultural Creative Park that embark on the virtualization process at the operational level are quite rich. A client company could show more openness towards potential customers by new technologies, as one interviewer indicated, e.g. interactive gallery maps, dedicated sites, games and play spaces for children and young people; multimedia tours simulation and virtual reality experiences sound, laser and light shows; IMAX presentations and 'theme-park-like' attractions; etc.
2. Strategic vehicle for increased competitiveness
   The strategic interpretation of ICT as an integrated vehicle for increased competitiveness is its contextual acceptance of the two dimensions of differentiation and efficiency. The Cultural Creative Park constitutes another defining feature of the NTUA in Taiwan's cultural and creative industry. The Cultural Creative Park has dealt with ICTs in different ways, but applying technology remains a particularly incisive defining feature.

4.3.2 The virtual integration and widening of the physical environment boundaries

The virtual, as we have observed in the digital archive or on the website of *Our Museum*, neither substitutes nor opposes the physical environment. It integrates with the real and widens the park's boundaries, which then open up to the creation and reinterpretation of actual reality. As another interviewer indicated, "From the digital archives platform of Our Museum, students could visit the virtual art museum at any time, anywhere, and any device. This new service will enhance their incentives and abilities for them to create more delicate works of art." In this sense, we are witnessing concrete manifestations that stem from ICT and other technology (e.g. virtual museums; wireless connectivity enabling live feeding of information and tools; e-learning etc).

4.3.3 Platform for information distribution

1. Enabling the "dematerialization" of processes
   Our findings also draw attention more directly to the role that ICT can play in reconfiguring the supply chain structure. From our observations, we find ICT and other technologies play a central role, like a hub or platform, instead of in the industry supply chain structure. It is not just a facilitator to other drivers but also a starting point and link to other constructs for value creation. One of the interviewers stressed, "The CAD, CAI, e-learning systems in the Craft and Design Department are helpful for meeting the industrial demands of delicately designed products. This is especially because the design system can encourage industrial employees to work together with the student designers of NTUA".
2. Repository of shared information and knowledge
   In our case study, technology is not an innovative element in itself, but constitutes the driver that enables a company to activate co-design or co-production systems that

simultaneously explore and exploit knowledge from online access to art and knowledge databases. We also find development through a repository of the knowledge from the characteristics of existing and competing services, to form business intelligence at our proposed service innovation model (see Figure 4).

4.3.4 Value co-creation with the service systems networks

With the new service transformation system dimension, the customer experience could reflect much more about value integration and transformation, especially when joined with ICTs applications. Any organizations and individuals involved in the service innovation model will contribute to the creation and transfer of cultural products or a cultural journey experience. When the new service transformation is positive, it will develop a good client relationship network (e.g. CRM system), where it will integrate the whole service innovation's process. The new service transformation system can combine and transform creative ideas, technology application and consumer preferences from a global trend website or artwork and knowledge databases/virtual museum into service innovation operational reality. This is further supported by the service subsystem network, which is another important feature of our proposed service innovation model. As another interviewer said, "With all the infrastructure facilities settled, the NTUA Cultural and Creative Industry Park will have strong potential to become the most famous and unique cultural park in New Taipei City."

The relationship between the above-mentioned constructs of service innovation, the ABCDE model and the key findings (with italic type) of this paper are listed in Table 1. The new service transformation system is a combined process, and the linking of the four constructs should be exploited to improve organization development, creative sub-systems and communication sub-systems, so as to create better value for the customer. However, to ensure the success of the new services transformation system, companies need to be managed and coordinated with effective and efficient technological options. From these results, we can find the combination of technological management within an organization and human viewpoint that is responsible for increasing value co-creation, highlighting the emergence of a mostly neglected soft side of innovation. This perspective allows companies to shift their attention from innovation output to different ways to serve their market better (Vargo and Lusch, 2008).

4.4 Linking the various dimensions

The individual dimensions impact each other in both directions. From one perspective, all of the innovative works in cultural industries belong to a certain combination of the above five dimensions. Service innovation in cultural industries can only be consistently achieved through the development of each dimension and their connections and interactions. The proposed service innovation model is connected to five constructs by the following six value creation activities.

Often these cross-linkages are forged in practice by those responsible for 1) marketing, 2) organization development, and 3) distribution. Launching a new service concept or aesthetic content (for existing or new clients) requires marketing expertise e.g., the play spaces for children and young people in the Cultural Creative Industry Park. Similarly, creating an

	Art	Business	Creativity	Design	E-business
ABCDE Model Content	Our **Art** Museum	Our Factory & **Business**	**Cultural** production system.	Our **Design** Studio	ICT application and **E-business**
Revised Service Innovation Model	New service concept	New client interfaces	**New services transformation system**	New service delivery systems/ organization	Technology option
Activity/ Function	Knowledge of the characteristics of existing and competing services (Business intelligence)	Characteristics of actual and potential clients (Market intelligence)	Relationship with the actors, co-production and transfer of new service (Management intelligence)	Capabilities, skills & attitudes of existing and competing service workers (Human Resource Management)	Technology mainly playing a role as a facilitating or enabling factor in various innovation (Enabling technology)
Linkage					
New Service Concept		Marketing	*Creative subsystem*	Organization development	*The virtual integrates and widens the boundaries of the physical environment*
New Client Interfaces	Marketing		*Communication subsystem*	Distribution	*Enhancing the effectiveness of a particular strategy*
New Services Transformation System	*Creative subsystem*	*Communication subsystem*		*Service subsystem network*	*Value co-creation with the service systems networks*
New Service Delivery System/ Organization	Organization development	Distribution	*Service subsystem network*		*Platform for information distribution*
Technology Option	*The virtual integrates and widens the boundaries of the physical environment*	*Enhancing the effectiveness of a particular strategy*	*Value co-creation with the service systems networks*	*Platform for information distribution*	

Table 1. The relations of proposed constructs of service innovation, the ABCDE model and key findings.

adequate interface with clients, and adapting the service delivery system requires knowledge of how services are distributed (both in terms of where they are produced and of how they are delivered). Below, we briefly introduce three additional activities in the pathways between specific dimensions.

1. Service Subsystem Network
    The service subsystem network includes internal employees, private friends and other cultural gatekeepers (e.g. opinion leaders, family members, etc). The pathway emphasizes the opportunity to select people with relational and/or specific technical capabilities in order to support interaction in an industrial domain. Moreover, it is important for managers or staff in particular to have specific competencies that constitute defining co-workers for the organization. These resources allow them to take an active part in the guidance and advancement of a cultural organization.
2. Creative Subsystem
    The creative subsystem is responsible for generating new symbols or ideas. In this pathway, where Our Art Museum dematerializes their offerings, the social and

economic actors (e.g. sophisticated museum guides, college professors, etc.) play a key role in knowledge transfer within the creative subsystem. Our results clearly show that attention paid to the creation of creativity from a widespread culture. Some actors must become genuine knowledge integrators and combine the knowledge generated from the interactions of the cultural creative activities.

3. Communication Subsystem

    The communication subsystem has dual objectives. First, the subsystem strives to make vital processes specific to the design sectors they have decided to operate in more efficient. Second, it is responsible for giving meaning to new ideas, and providing them with symbolism to increase the added value of their services. In this approach, in which firms are involved in a process of replication of a school's niche strategy, factory staff, artisans and craft professors can also become genuine knowledge integrators, and include the information generated from their interactions with customers.

5. Conclusions

Based on Bilderbeek's four-dimension service innovation model and service system and cultural production system, we added a fifth "new services transformation system" dimension that plays an important role in the service innovation model for cultural creative industries. It expresses the new service concept synthetically, supported by factories and organizations, and maintains a relationship with the new client interface. On this dimension, the customer experience reflects much more about value integration and transformation, especially when joined with ICT applications. Any organizations and individuals involved in the service innovation model will contribute to the value creation and the transfer of cultural products/services. When the new service transformation is positive, it will develop a healthy client relationship network and integrate the whole service innovation process. This article allows the specificity of each construct to be emphasized, especially in terms of new services transformation systems and the role of technology. We found the convergence of cultural production systems and service science on the study of service systems to be particularly helpful in establishing a basis for systematic service innovation. The services transformation system dimension identifies the relationship with actors, value co-creation and transforms new service in enhancing management intelligence. We do not only see the generation of new service models but also perceive previous models increasing their efficiency and flexibility. From the service science perspective, we reinterpret the "ABCDE" model. We turn "Art" into "Business," while the process is combined with "Creativity," "Design," and "E-business" to transform the aesthetic values to commerce by service innovation.

This is a starting point for better understanding the role of ICT and soft innovation in supporting the redefinition of service innovation models and the conditions that enable their business development. The next step is more in-depth analysis. The proposed framework for service innovation management provides practitioners with a structured approach to manage the service innovations of the Cultural Creative Industry Park. We also anticipate that the paper will yield results of interest and usefulness to cultural parks that are developing new innovation service models around information and communication technologies. Future research efforts might be both qualitative and quantitative, and deepen the practical implications of the different roles played in service innovation in cultural and

creative industries. The sample size should also be increased in future research, adding selected organizations that represent different cultural industries and different countries. Such a future study would avoid the argument that the case studies are too specific to be relevant to other organizations in culture-related businesses.

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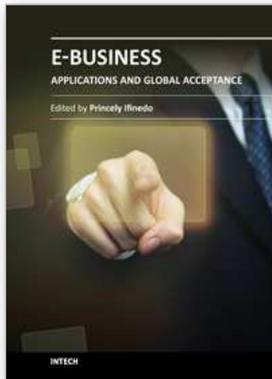
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