AN IS BASED MODEL FOR EXPERIENCE DESIGN AND MANAGEMENT IN CULTURAL TOURISM

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AN IS BASED MODEL FOR EXPERIENCE DESIGN AND MANAGEMENT IN CULTURAL TOURISM

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Abstract

According to Pine and Gilmore [1999], over the last two hundred years we have witnessed a shift from an Agrarian Economy based on extracting commodities, to an Industrial Economy based on manufacturing goods, to a Service Economy based on delivering services, and finally to an Experience Economy based on staging experiences. In the same time span, tourism has evolved from being an elitarian pursuit to being a leading world industry, contributing with over 10% to global GDP (source: WTO). In a fast growing scenario such as the tourism market, if Europe wants to keep its leading position, considering the increasing competitive pressure of emerging countries where labour and raw materials are enormously cheaper, it won’t definitely be through beach, general purpose, tourism. Rather, it will have to leverage on its artistic and archaeological resources that make a visit to places like Rome, Florence or the Loire castles a unique experience. Polls and surveys, however, show that the average traveller is becoming increasingly demanding in terms of information and services: as Shoshana Zuboff points out, people are now more educated, informed, experienced, travelled and connected than earlier generations [Zuboff 2005]. This makes it necessary to invest in R&D for providing tourists with added value, user centred, highly personalized services. In short, memorable experiences. No matter what purpose is behind the project of a trip, travelling is an information intensive activity: variables are innumerable and for transforming a nice idea into a successful trip it is necessary to gather as much information as possible. This, in the age of Internet, can be a hard task: it is well known that extracting useful, meaningful information in an almost infinite repository such as the web, can be an extremely frustrating and time consuming endeavour. Furthermore, each phase of a trip requires different types of services and information. And, last but not least, as Negroponte [1995] noted already over a decade ago, in the post-information age personalization is “upon us”: consumers are now accustomed to be considered as individuals, and “mass” is a synonym of “low quality” in a world where goods, services and, above all, information get everyday closer to their final target’s preferences through increasingly refined customization techniques. A solid point of reference, in this respect, is provided by the Open Tourism Consortium, on the emergence of a multi-faceted uCommerce. In the proposed model a tour is organized in three phases: pre-, on-, and post-tour. In short, in order to support and promote cultural tourism and heritage, it is necessary to provide both domain experts, and general purpose users with an environment for accessing interactive, personalized, multimedia content through any kind of network and tool, seamlessly switching from one to the other. For reaching this objective it is necessary to cover the whole cultural product life-cycle using techniques and methodologies that range from tomography, to virtual reality, to ontologies, to marketing and customer segmentation techniques with a strong multidisciplinary approach.

Keywords: Experience Economy, uCommerce, Personalization, Ontologies.
1 CONSCIOUS VS. UNCONSCIOUS CONSUME

Recent studies suggest that up to 90% of human decisions are taken unconsciously, even though sometimes made conscious at a further stage, and the data the human mind uses to reach those decisions resides below the level of conscious awareness [O’Boyle 2005]. Therefore, a rational “need-purchase-benefit” chain can very seldom apply to a market like tourism where consume is strongly driven by emotions or, if you prefer, by “psychological needs”. Indeed, quoting Henry David Thoreau: “Many men go fishing all of their lives without knowing that it is not fish that they are after.”

Tourists’ behaviour is in fact affected by a combination of multi-dimensional factors: emotional, cognitive, cultural, social, economic, geographic aspects profoundly shape the definition of mainly intangible products/services.

Therefore the tourism demand is highly segmented, and will be increasingly so in the future. It is therefore more correct to talk about tourism rather than simply about tourism as many different types of tourists have recently emerged, which can be classified in a number of ways (Fig. 1):

1. By product:
   a. Mass Tourism (e.g. Package tours)
   b. Alternative Tourism (e.g. Ecotourism)

2. By nature of the activity:
   a. Active (e.g. Adventure tourism, Ecotourism, Golf)
   b. Passive (e.g. Sightseeing, Beach holiday, Cruise)

3. By location preference:
   a. Sea (e.g. Costa Brava)
   b. Rural (e.g. Andalucia)
   c. City (e.g. Barcelona)
   d. Mountains (e.g. Pyrenees)
   e. Lakes (e.g. Banyoles)

4. By duration of trip and distance travelled:
   a. Day trip (Local)
   b. Weekend break (National)
   c. Annual holiday (International/Intercontinental)

5. By purpose:
   a. Business
   b. Pleasure

6. By age/socio-economic group:
   b. DINKS: Double Income No Kids (younger people, between 25 and 35 years of age, no children, affluent)
   c. Empty Nesters (Parents whose children have flown the family nest. Between 45 and 55 of age, well educated, high disposable income)
   d. Boomers (members of the baby boom generation in the 1950s)
   e. Youths (Between 18 and 25 of age, not well-educated, low disposable income, are used to travelling, have learned it during the upbringing, and know how to indulge 'the good life')
In this paper, as the title suggests, it is proposed a model that considers as a key factor for the tourism market, and the cultural tourism in particular, the management of final users experiences. This perspective is supported by an increasing number of publications, but the definition of “Experience Economy” is due to Joseph Pine and James Gilmore that in their seminal work, back in 1999, assert that we have recently entered a new economic era. According to the authors, in the last two centuries, world economy has evolved through four phases. After a first, agrarian phase based on the production of commodities (“wheat to bake ones own bread, wool to knit the family garments”), the second was marked by the industrial revolution, when millions of people moved from countryside to town, from field to factory floor for producing steel and iron, engines and ships, but also tinned food and knitted clothes, and the corner bakery produced the daily bread: the era of mass manufactured goods had arrived.

In the third phase, defined as Service Economy, prosperity and automation increased wages and decreased the hours worked. But “rather than use the increased non working time to return to making our own bread and knitting our own clothes, we (in the advanced industrial economies) have chosen to spend our time purchasing services” [Pine & Gilmore 1999].

These changes paved the way for the present, fourth phase. Even though the struggle for electing a label to define it is still ongoing, a few options can be considered as “shortlisted”, and authors supporting them can help us identifying its key aspects: in their already quoted work Pine and Gilmore propose the definition of “Experience Economy”; Shoshana Zuboff, after writing the bestseller “The Support Economy” [Zuboff & Maxmin 2002], has recently published an article with the title “The Personalized Economy” [Zuboff 2005]; Richard Florida, in his seminal “The Rise of the Creative Class” [Florida 2002], argues that economic growth and development turns upon 3Ts (Technology, Talent and Tolerance) and describes a society in which the creative ethos is increasingly dominant, thus preparing the ground for a “Creative Economy.”

The idea that percolates through these contributions is a compound of new needs that appear to characterise the 21st century individual, an individual that is now more educated, informed, experienced, travelled and connected than earlier generations [Zuboff 2005], an individual that does
not accept to be treated as an anonymous component of a mass, an individual that wants her/his uniqueness to be recognised.

But even though in theory it is widely acknowledged that “mass” is a synonym of “low quality” and that goods, services and information should get everyday closer to their final target’s preferences through increasingly refined customization techniques, in practice people are “routinely punished for being complex psychological individuals in a world still fitted out for the old mass order” [Zuboff & Maxmin, 2002].

In this scenario, the market rewards those who leverage on creativity using personalisation techniques for making consumers feel unique and supported: in today’s market the struggle is no more on the quality of products but, rather, on immaterial aspects.

The last frontier of economy consists in providing consumers with experiences. It is emerging an orientation towards the creation of immaterial products and major corporations have progressively outsourced the industrial production of goods for concentrating on intangible products like “image” (Nike, for example, has outsourced the production of shoes in areas where raw materials and human labour cost much less, for concentrating on the design of new models, promotion, and marketing, proposing not just products but, rather, “lifestyles”), while an increasing attention is paid to the production of “experiences”: e.g. when the goal is to sell a car it is the “driving experience” to be stressed, whereas for selling a washing powder it is put forward the sensation of wearing a shirt washed with a certain product, and so forth.

Such vision perfectly suits a market like tourism where experiences represent the main objective of a consumer: travelling and, even more, interacting with pieces of art are by definition “experiences”, and in this perspective should proposed, packaged, and finally purchased. For instance, when a visitor buys a ticket to a museum, an exhibition, or an archaeological site, what is s/he getting in return for the fee paid? Knowledge and emotions [Missikoff 2004], in one word an experience: and living emotionally involving experiences can in fact be considered as the main goal of a tourist, and especially of a cultural tourist.

2 THE EVOLUTION OF TOURISM

The first form of tourism has certainly been cultural, in fact the term “Tourism” itself derives from the so-called “Grand Tour”, a European travel itinerary that flourished from about 1660 until the arrival of mass rail transit in the 1820s. Popular amongst young British upper-class men, it was considered as an educational rite of passage for the wealthy. The Grand Tour in fact introduced a totally new way of intending the travel: until then travelling was mainly for practical reasons, namely trade, war, pilgrimage or diplomacy. In this new meaning, travelling was instead seen as an experience that “served the purpose of preparing the young British nobleman for a leadership position at home, often government-related or diplomatic in nature” [Wikipedia]. The Tour normally started from Dover and, after going through France and Switzerland, lead travellers to Italy where they spent most of their time in famous Cities of Art such as Florence, Venice, Rome and Naples, sometimes reaching as far south as Sicily. On their way back the Grand Tourists usually stopped in Austria, Germany and Holland, possibly attending University courses, ending up again in Dover: hence the definition of Tour.

It was previously said that living emotionally involving experiences can be considered as the main goal of a tourist, so this should be the core product of travel agents and tour operators. Such product, however, is of a special sort: it is intangible, and therefore an assessment of its quality is highly dependent on the perception of satisfaction from final users, whatever their competence or specific interest. As a consequence, experience management should be strongly based on an accurate and continuous monitoring of the customer satisfaction.

At this point it is worthwhile to allow for a brief digression. The recognition of experiences as commercial products is indeed fairly recent, and we are probably still at a premature stage for talking about an “experience market”. It is in fact only after WW2 that most leisure activities such as culture, sports, and obviously tourism, became available to the masses, thanks to a very special historic period:
in the industrialised world the wealth starts to be more evenly distributed, and we can observe the diffusion of “mass consumes”!

Now, however, using the words of Shoshana Zuboff: “Mass production has hit a dead end. Today's consumers increasingly expect individualized attention. CIOs can help their companies understand this shifting economic landscape.” Thus, just like a century ago the managers who rode the new mass consume wave soon reached the top of the ladder (Henry Ford to name but one!), through a “personalized economy” approach today’s CIOs will have to stand on the shoulders of technology to become the champion of the individual [Zuboff 2005].

For what concerns the research method, the present paper addresses people needs and how to help fulfil them, and can therefore be classified as “qualitative”. More specifically, if we consider the underlying epistemology, this research identifies the alienating contradiction between the desire of users to be treated as individuals and the still predominant mass logic. Thus according to the paradigm classification proposed by Orlikowski and Baroudi [1991] this contribution can be defined as “critical.” There is, in fact, a substantial agreement with another statement of Zuboff who, in the above mentioned paper, asserts that: “History teaches that the enterprises that move decisively to reconnect with an alienated population get rich first.”

So the question is: how to reconnect with this alienated population? An interesting answer to this question is provided by Erik Davis [2001]: “A quick scan of our socio-cultural landscape suggests that, in terms of artistic practices, mass entertainment, sports, and emerging technologies of pleasure, productive forces are increasingly targeting experience itself – that evanescent flux of sensation and perception that is, in some sense, all we have and all we are.”

According to Davis, “this describes an apparent shift within the consumption patterns of the younger, more technologically savvy elite, a shift away from the hoarding of material goods and status symbols to the hoarding of novel, exciting, and challenging experiences.” This includes the “dramatic intensification of tourism over the last few decades – a process which offers us increasingly specialized, adventurous, and exotic packages (guzzling ayahuasca with Peruvian shamans, caving in Belize, visiting real live monks in Bhutan)” [Davis 2001].

In order to successfully deploy the proposed model, i.e. a tourism offer that takes these principles into consideration, it is necessary to operate on different plans:

1. decompose the travel experience in well defined, meaningful phases
2. identify tourists’ profiles and most popular media
3. analyse and classify content and devices/networks for delivering it

These three aspects, that represent the key components of the model outlined in this paper, also provide us with a roadmap for addressing the final users’ needs. But for reaching this end it is necessary to invest in R&D on the provision of added value, user centred, highly personalized services.

3 MAIN PHASES OF A TOUR

No matter what purpose is behind the project of a trip, travelling is an information intensive activity: variables are innumerable and for transforming a nice idea into a successful trip it is necessary to gather as much information as possible. This, in the age of Internet, can be a hard task: it is well known that extracting useful, meaningful information in an almost infinite repository such as the web, can be an extremely frustrating and time consuming endeavour. Furthermore, each phase of a trip requires different types of services and information, to be provided through different media and networks in a seamless way.

A solid point of reference, in this respect, is offered by the Open Tourism Consortium, and especially the seminal work done by Rick Watson and his team that “outline the architecture of a meta-information system, U-tour, built on data management and network technologies. The name, U-tour, is
an amalgam of the ideas of uCommerce and the notion that, under the projected system, tourists will in many respects be their own travel agents and tour guides” [Watson 2004].

A particular relevance is thus given to the emergence of a multi-faceted uCommerce, where the “u” stands for ubiquitous, universal, unique, and unison. uCommerce is defined as “the use of ubiquitous networks to support personalized and uninterrupted communications and transactions between an organization and its various stakeholders to provide a level of value over, above, and beyond traditional commerce” [Watson et al. 2002]. In the U-tour model the tour lifecycle is structured in three phases: pre-, on-, and post-tour. The pre-tour phase coincides with the collection of relevant information for planning the tour, the on-tour phase concern the actual execution of the trip, and the post-tour phase consist in reminiscing and sharing the information material gathered during the travel experience.

![The tour lifecycle](image)

**Fig. 2: The tour lifecycle**

In the present contribution this model is enriched through an experience design and management perspective for enhancing the tour and transforming it in a memorable experience with the support of state of art technologies. With respect to the more widespread expression of experience design, it has been decided to add the term management because the intention is to support not only the planning, but the entire tour experience lifecycle (Fig. 2).

The deployment of the proposed model consists in an “Experience Design and Management Platform” where the tourist, interacting with an intelligent system, can be supported in each phase of the journey through enabling services and technologies.

More specifically, the objectives, services and technologies to be activated in each phase and sub-phase of a trip are the following:

- **Pre-tour.** This first phase is composed of three sub-phases:
  - Pre-tour online anonymous; at home the user accesses the platform and starts navigating anonymously through generic info and services.
  - Pre-tour online registered; if happy with the offer, the user signs in, provides personal info and receives a unique identifier. From this moment, through the info provided...
consciously by filling the form (customisation, see chapter 4) and unconsciously from the analysis of her/his behaviour (personalisation, see chapter 4), the system progressively refines the user profile.

- **Pre-tour onsite**: in alternative, if the tourist was not aware of this opportunity at home and reached the chosen destination without having previously interacted with the system through the web, it will be necessary to use marketing strategies for attracting and induce her/him to access the system.

- **On-tour**. At this point the user has reached the final destination where s/he enters the central phase of the experience, that is further decomposed in two sub-phases:
  - **Virtual tour**: in this sub-phase, according to personal interests, the user receives more detailed information and, basing on these, is allowed to refine the tour plan. Also, in appropriately designed visitor centres, it is possible to see virtual reality reconstructions and access interactive applications.
  - **Real tour**: in this sub-phase the tourist starts to roam through the territory, always staying connected to the system via various types of wireless connections according to the context (Bluetooth, Wi-Fi, RFID, for indoor spaces like museums and galleries; GPS, Wi-Max, Umts for outdoor spaces like sites and monuments).

- **Post-tour**. Finally, having gathered memories of different sorts throughout the travel experience, the user is allowed to reminiscing and sharing them in the most suitable way (personal web space, B-log, print-on-demand, etc.).

### 4 PERSONALIZATION VS. CUSTOMIZATION

Another key aspect of the proposed model consists in the identification of final users profiles. The relevance of this point is widely recognised and the number of methods and techniques available for performing this task constantly increasing. The whole set of such methods and techniques, however, can be decomposed in two main categories according to the awareness, or the unawareness, of the user to be profiled. In other words, whether the user is giving information about her/himself consciously or unconsciously. In the first case we talk about *customization or adaptability*, and it occurs when the user “creates a profile manually, adding and removing elements in the profile” [Bonnet 2002], whereas the second is defined as *personalization or adaptivity*, and is automatically produced by the system deriving the profile of a user from the monitoring of her/his behaviour.

The advantage of customization is that the control of the profile definition is totally in the user’s hand, whereas personalization is attractive because very little or no effort is required from the user as the profile is outlined according to the way the user interacts with the system and how s/he navigates in the physical and virtual space [Bowen and Filippini 2004].

Nicholas Negroponte [1995] was among the first to evaluate the importance of this aspect when he noted, already over a decade ago, that in the post-information age personalization is “upon us”. Also, Negroponte proposes individualization as a term for embracing both the meaning of customization and personalization.

But even if the final task is to identify individual profiles, this is a very hard goal to achieve from scratch. Therefore, a good starting point is to provide predetermined clusters where main target groups could find appropriate content and progressively refine profile definition with the aim of eventually building a one to one relationship with the system: this approach is defined “segmentation”, and the more common criteria used for grouping users are the educational level, the age group, the learning style, the users’ goals, etc. By applying one category or a combination of these criteria the profile of a typical group member is therefore created [Filippini-Fantoni 2004].

Not surprisingly, the first and more widespread practical applications of user profiling techniques can be found in the business sector with eCommerce, where personalization was seen as a paradigm in contrast with the traditional, mass production strategy.

Web personalization allows companies to offer products, services and advertising that give consideration to the interests, characteristics and needs of the customer, consistent with the
information obtained during the navigation of the user on the company’s web site. E.g., see the Personalization Consortium (http://www.personalization.org), which has an interest in one-to-one marketing technology. The leading example, however, is probably Amazon (http://www.amazon.com), the on-line bookstore and retailer, which monitors the user's interests through any previous navigation around the web site.

Individualization techniques are obviously no more limited to the business sector and are now successfully used in other contexts such as medicine, education but also, as it emerges from this article, tourism and culture.

Unfortunately cultural institutions have been among the last to realize the importance of personalization in spite of the fact that approaching culture is heavily influenced by characteristics of the actual user, and the vast majority of museums, monuments and sites still adopt outdated, rigid, communication strategies. This condition severely limits the satisfaction of visitors and therefore reduces the stimulus to repeat the experience.

It must be recognised, however, that the number of attempts to move in this direction is constantly growing, and some examples can provide interesting points of reference, as leading museums of the world are all investing in this direction.

In the case of the Carrara Marble Museum, one of the first to explore these opportunities, the collection can be accessed either by simply choosing among three predefined profiles (segmentation) or by manually defining (customization) the preferred type of access, information, and layout [Paternò & Mancini, 1999]. The Metropolitan Museum, then, offers “Set your calendar”, an adaptable application based on a very simple principle: by filling a form the visitor can select some criteria for choosing subjects and events, and every time s/he will visit the web site and click into “My Met Calendar” mode, only items that suit the visitor preferences will be displayed. Louvre Museum finally, provides the “Customised alert system”, where the visitor can define her/his profile by listing personal interests and be informed in push mode via email or SMS.

5 ADVANCED CONTENT MANAGEMENT TECHNIQUES

On the content side, the first step to be taken in order to produce a usable and interoperable output, shall be represented by the construction of a Domain Ontology. Ontologies are defined as “a shared understanding of some domain of interest which may be used as a unifying framework” for “facilitating knowledge sharing and interoperability between independently developed subsystems” [Uschold and Gruninger, 1996].

The proliferation of tourism contents and resources available on the internet poses the problem of extracting meaningful information from an almost infinite repository: the world wide web. Meanwhile, in the Cultural Heritage domain, digitisation projects and consequently digital cultural contents are proliferating, multiplying the amount of resources available.

A viable solution was spotted through the implementation of techniques and methods derived from the evolution of Artificial Intelligence studies on knowledge. The proposed solution was called “The Semantic Web” and the proponent’s name needs little presentation: Tim Berners-Lee [Berners-Lee et al. 2001]. The most remarkable advantages the Semantic Web should provide, consist in the possibility to perform searches based on concepts instead of terms, therefore reducing the chances of confusion and allowing software agents to carry out complex tasks for humans. The Semantic Web, according to Berners-Lee, should substantially rely on well formed, interoperable and sharable contents.

The aim of this section is to provide the reader with a practical understanding of the basic principles of ontologies, and of the possible advantages deriving from their application in the CH domain. A more extensive description depicts ontologies as “an explicit, agreed and shared definition of a portion of reality by means of a conceptual model. This model may exist in someone’s head or be embedded in a software or information system, in an object or in a process. The task of an ontology builder is to identify the model and make it explicit. This allows the model to be accessed by, or communicated to,
a wider range of potential users, be they people, organisations or software agents” [Missikoff 2003].

With respect to a thesaurus, an ontology aims at describing concepts, whereas a thesaurus aims at describing terms. An ontology can be seen as an enriched thesaurus where, besides the definitions of, and relationships among, terms of a given domain, more conceptual knowledge is represented. With respect to a Knowledge Base (KB), an ontology can be seen as a KB whose goal is limited to the description of the concepts necessary for modeling domains. A KB, in addition, includes the knowledge needed to model and elaborate a problem, or to answer to queries about a domain.

An ontology is usually composed of: (i) a set of concepts (e.g., entities, attributes, processes) regarding a given domain, (ii) the definitions (conceptualization) of these concepts, and (iii) the relationships interconnecting entities within a given domain.

Constructing an ontology implies three basic steps to be carried out, these are: (i) examining the vocabulary that is used to describe the characteristic objects and processes of the domain, (ii) developing rigorous definitions about the basic terms in that vocabulary, and (iii) characterizing the logical connections among those terms.

For what concerns a practical use, at a higher level we can subdivide the space of uses for ontologies in the following four categories:

- communication and cooperation among people
- better institutions organization
- interoperability among systems
- system engineering benefits (reusability, reliability, specification)

For a more effective content wrapping, it will be referred to studies on eLearning and in particular on Reusable Information Objects (RIO) that, after the creation of the domain ontology, will allow the organization of knowledge in “atomic” units to be reassembled according to users characteristics.

A RIO can be defined as a digital resource of knowledge that can be reused to support knowledge acquisition. RIOs are aimed to deliver a complete experience on one topic or aspect and include anything that can be delivered across a network on demand.

RIOs can take the form of textual information, images, prerecorded video and audio fragments, animations, software systems and applications, web pages, etc.

Following this approach insures a wide range of advantages, the first of which is surely a user centred approach, but includes also a great flexibility in information objects utilization, ease of content updates and searches, adaptation and customization of a knowledge acquisition process to needs of particular user(s), and facilitations of various types of learning. In this new scenario, the learning process would be: (i) competency-based, (ii) customized, (iii) individualized/personalized, (iii) context sensitive.

This characteristics will increase continuously, and considerably, the value of content available for the final users.

6 CONCLUSIONS

The last frontier of economy seems to be looking at consumers experiences as a key factor, and the trend towards a more personalized provision of goods and services is increasingly widespread.

As a consequence, in this paper it has been proposed a model for supporting tourists in general, and cultural tourists in particular, in achieving a successful experience out of a nice travel idea. The proposed model, defined as “Experience Design and Management”, is based on three key aspects: (i) decompose the travel experience in phases, (ii) identify tourists’ preferences, and (iii) analyse and classify content and devices/networks for delivering it.

The model should be deployed through an IS based platform where information and services could be accessed through different devices and networks depending on the context in which the user is positioned, and through different media depending on the characteristics of the content to be delivered.
In chapter one after an analysis of the present day scenario, the “Experience Economy” paradigm is briefly described, together with other interesting proposals such as the “Support”, the “Personalized”, and the “Creative Economy”.

In the second chapter, after having outlined the historical evolution of tourism, the selected method and the key aspects of the present research are defined.

In chapter three the main phases of a tour are listed, together with a description of the objectives, services and technologies to be activated in each phase and sub-phase; in this section the μCommerce model is also briefly accounted.

Chapter four is dedicated to customization and personalization, and some interesting case studies from leading museum institutions are provided.

Finally, the subject of chapter five concerns advanced content management techniques: in particular ontologies and reusable learning objects are suggested for a successful organization of information to be delivered according to users preferences and specificities.

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