EXARC JOURNAL 2016/2
14 Articles | Open Access

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Reviewed Article:

The Influence of Spatial Structure on the Economic Value of an Archaeological Park

Persistent Identifier: https://exarc.net/ark:/88735/10242

EXARC Journal Issue 2016/2 | **Publication Date:** 2016-06-15

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This article is a summary of a presentation held at the conference in Mistelbach in 2015, “Archaeological Reconstructions and Tourism”. The conference topic leads us to a more consistent approach to reconstructions and tourism. All who work in the heritage sector know that all types of museums have a great influence on the tourism sector. What I want to discuss is whether this comes spontaneously, or to consider the possibility that there is a formula resulting in this influence? Furthermore, what is the cost of attracting tourism? Do we

need large investments in reconstructions? Do we need reconstructions of natural scale at all? All of these questions, and others, were raised during my research on the management of archaeological parks, where the main research question was "under what conditions can an organisation survive in the market"(Breznik 2014).

> So, in my opinion, making a pleasurable and comfortable visit is just as important as the authenticity of the archaeological presentations.

Of course, there are many factors impacting business success. Using marketing terminology: it's all about the product. This means that all of the elements involved in making a final product have to be taken into the consideration (see for example Potočnik 2004, 223–278; Goi 2009, 2–5).

I would like to present some specifics on archaeological open-air complexes regarding different types of presentations and their economic aspects. In a broad consideration of six examples of archaeological parks, and one example of an open-air museum, we focused on heritage and organisation management. We used the case study method, the main characteristic of which is the correlation between different factors. Besides the many interesting results that came out during the research, we will focus on the correlation between the spatial concept of the complex and visitor's experience, which in the final consequence results in the economic value. In other words: what do we have to have in mind when constructing an open-air museum or an archaeological park if we want to be successful. Which elements are time consumers and which are money-makers?

Market logics

There are many facts already known about museum visitors and market segmentation (see for example McManus 1996, 27-39; Paardekooper 2012, 235-272). Now we are going to make a logical but still a hypothetical visitor profile that is common to all segments. This could be a family or an elderly couple or a group of students. What do they have in common?

- They are mostly not archaeologists or any kind of experts for similar sciences
- They value their time and money
- They want to experience
- They need to rest
- They eat
- They buy

What I want to say is that we will have visitors if they think that visiting our museum (I use 'museum' as a term for any kind of open-air or indoor heritage presentation (compare the Icom definition of musum).) is worth their time and money. For example: an attraction that is two hours away by car (meaning four hours in both directions), which cost me about 40 euro

for petrol, and all I can do there is visit ruins and read texts for about an hour. With no playground for my children, no restaurant, and no resting place. If I weight up my costs and for what I get in this case, I would hesitate visiting such a location.

So from that perspective I ask myself, does our museum want to play an important role in tourism, as a self-sufficient partner or as a partner by coincidence, and still not generate enough revenue for employment and sustainability, in general. So take a closer look how the spatial structure and all the infrastructure elements influence our business results.

From that point of view, we have to take into the consideration some specifics in creating a heritage attraction. These are not based on the science of archaeology, but rather on marketing and economics, as well as with pedagogics, psychology, tourism and management.

Subject of research

In our research, the base of which is our discussion (Breznik 2014), we focused mainly on archaeological parks (for which also the term 'site museum' is used), the presentation concept is a little bit different from the open-air museums. The main characteristic of the archaeological park is the presentation of archaeological remains *in situ*. Alternatively, the main characteristic of the open-air museum is the presentation of the past in ex situ position, with presentation of reconstructions, also ex situ. The differences and definitions of open-air presentations are not so much relevant for our discussion, although they are widely presented in other studies.

What has to be pointed out is that no matter of the basic idea of past presentations, the topic of our observation is the modern open-air museum, or 'complex' in the widest meaning of the word. From that point of view, we are going to observe the phenomenon of the modern open-air museum as a complex for visitors, which leads us to the concept of a modern tourism product.

The research, that was finished in 2012, included seven examples of organisations (See Figure 1). These are:

1. Arheološki park Andautonija (CRO)
2. Ciutadella Ibèrica de Calafell (ES)
3. Keltenwelt Freilichtmuseum Frög-Rosegg (AT)
4. RégészetiParkSzáchalombatta (HU)
5. Sagnlandet Lejre (DK)
6. Eketorp (SE)
7. ArchäologischerParkCarnuntum (AT)

In our research we observed following characteristics of the complexes (See Figure 2):

- the size of an organisation,
- the number of employees and their competence,
- the shape and size of the representation of archaeological remains,
- the shape and size of complementary presentation of the archaeological past, and
- the relationship between principal and supplementary activities, in terms of revenue and the size of operation.

Application: Observing the spatial structure of the complex

In our case, we are going to focus on the size and spatial structure of the complexes and their elements. We are going to observe:

- Elements of original archaeological remains (no matter if they are reconstructed or not);
- The area of free standing reconstructions;
- The area of additional interpretations;
- The supplementary elements, such as parking, playgrounds et cetera;
- The elements of for-profit activities, such as museum shop, café, restaurants, et cetera.

The archaeological park at Calaffel presents the remains of an Iron Age settlement and some Roman Era dwellings, and is 6 ha large. Half of the area consists of presentations of original archaeological remains that are mostly reconstructed on a natural scale. The other part is arranged as a picnic area with no special arrangement (just grass and benches). There are also some simple didactic elements, such as interactive boxes with puzzles and enigmas, and a small reception area. Measuring time spent at different points, we shows that a simple picnic place with no special arrangement and almost zero costs is very similar in time spent as a reconstructed area if you have your lunch package with you (See Figure 3). Of course, the reconstruction is the main attraction of the complex, but supplemental elements, such as a picnic place, playground, didactic elements, and other interpretation areas, are very important for prolonging visitors' stays and increasing the quality of the experience. According to formal data, the investment amount estimates at 1.25 million euro investment by 2011.

The results are as follows:

- Parks and museums range from half a hectare to 43 hectares.
- The percentage of presentation of original remains ranges from 4.16% to 70% of the area.
- The percentage of free-standing reconstructions ranges from 10 m2 to 2 hectares.

And the percentages of all presentations together (original remains + reconstructions) goes from 5.5% to 85.7 %. In the last case, this means just a small area for additional infrastructure which we are interested in, such as experimental areas, playgrounds, walking paths and so on, which are quite low cost investments, but interesting for visitors and very time consuming. That means that they prolong the visitor's stay and enhance the experience.

Let's take a closer look at some concrete examples and see in what terms are these results of interest for us? For consideration, we will compare Calaffel and Lejre, because they consist of similar elements but of differ to some extent. Before we continue, I have to stress that no systematic research has been done regarding the specific correlation, just measuring my own time as a visitor. But nevertheless, this subjective experience leads me to more consistent thinking on some new aspects that could be a subject of systematic research in a future study. Both situations described below are from the time of my visit, which was 2010 for Lejre and 2011 for Calafell (See Figure 3).

Another example we would like to present is Lejre, which is in fact an open-air museum (See Figure 4). Lejre is 43 ha in area, and the area of natural scaled reconstructions is 23.734 m2, which is 5.52 % of the whole area. There are two elements in Lejre that are interesting for our discussion: the Fire Valley and a huge picnic area, both of which are very close to the entrance. Fire valley is approximately 2000 m2 in size, and the picnic area is about 3500 m2. The Fire Valley is a kind of didactic area, where you can make stone tools, chop wood, make your own flour and bread, and so on. Beside that, the main attraction is boating in a wooden canoe. The picnic area is very well arranged with open fire pits and benches. What is interesting for us, from time and investment perspective, is the interesting proportion between low investment costs and high state of excitement, and the extended time spent because of specific types of interpretations. According to official data, the investment costs for Lejre were 600,000 euros in cash, but no volunteer work is included in this amount.

This comparison is interesting in weighting the investment against the effect of the investment, which in our case is observed in time consumption and the extent of the experience. A cost-benefit analysis approach leads me to some further hypothetical comparison as shown below. The costs are real data from similar projects, and the estimation of time consumption is taken from my museum practice while observing visitors (See below Figure 5).

Method	Costs (minimum)	Time consumption	Extra ticket possible
1:1 reconstruction	10.000–500.000 eur	30'	-
3D animation	25.000 eur	5'	-
Playground	2.000 eur	30'	-
Static interpretation	2.000 eur	20'	-
Dynamic interpretation	200 eur	30'	-
Picnic area	2.000 eur	1 H	-
Didactic exvavation area	2.000 eur	2 H	Yes

FIG 5. COST-BENEFIT ANALYSIS BETWEEN INVESTMENT COSTS AND TIME CONSUPTION.

Conclusion

Being attractive for visitors means being visited, which in the end results in important income for the museum. My main question through the whole discussion has been 'what is the cost of being attractive'? There is no doubt that reconstructions, no matter if they are natural or digital, are a magnet for visitors, because they are so vivid and alive. And if we accept the fact that an open-air museum or an archaeological park is a dynamic story, and a whole day story, the important role of other interpretational elements, supplementary activities and add-ons becomes obvious. Comparing all seven projects we can see quite big differences in investments and structures. But what is common to all of them is the fact that archaeological presentations of dwellings and environments are necessary scenery for the archaeological story, but at the same time only part of the tourism product as a whole (Breznik 2014, 151-156, 168-169).

So, in my opinion, making a pleasurable and comfortable visit is just as important as the authenticity of the archaeological presentations. The last characteristic is usually not a problem. Having in mind the spatial image of our complex, together with the infrastructure, is very important in the planning phase.

Keywords archaeological open-air museum
management
tourism

Country Slovenia

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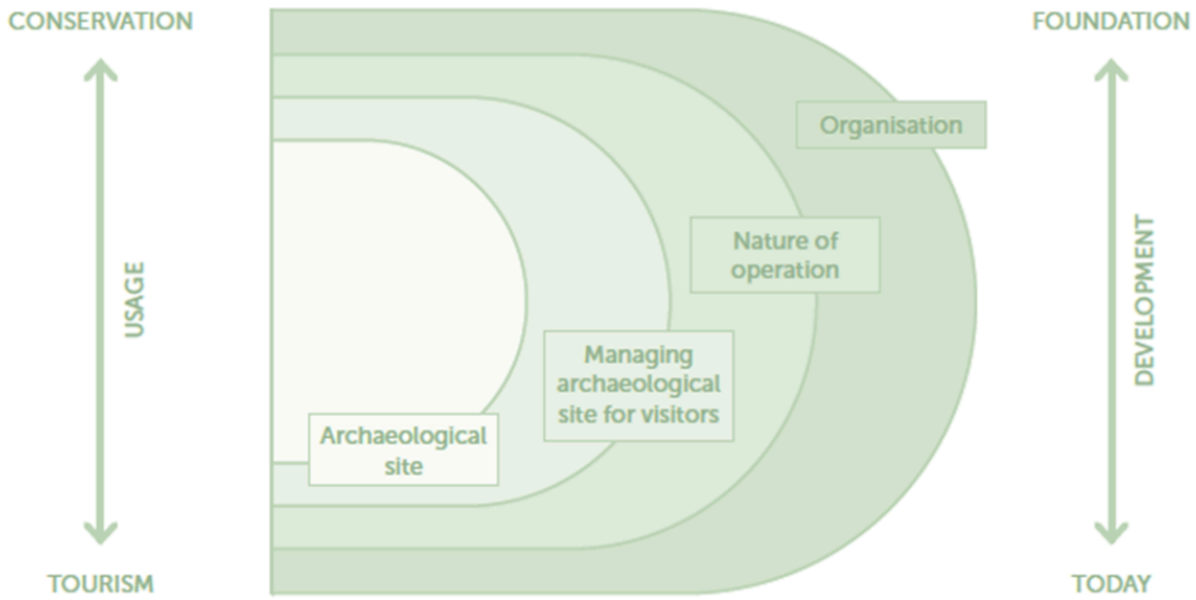
FIG 1. A MAP OF ORGANISATIONS INCLUDED IN THE RESEARCH



Picture 5.1: The scheme of aspects and relations of organisation studies following the method of case study.

FIG 2. THE SCHEME OF ASPECTS AND RELATIONS STUDIES FOLLOWING THE METHOD OF CASE STUDY

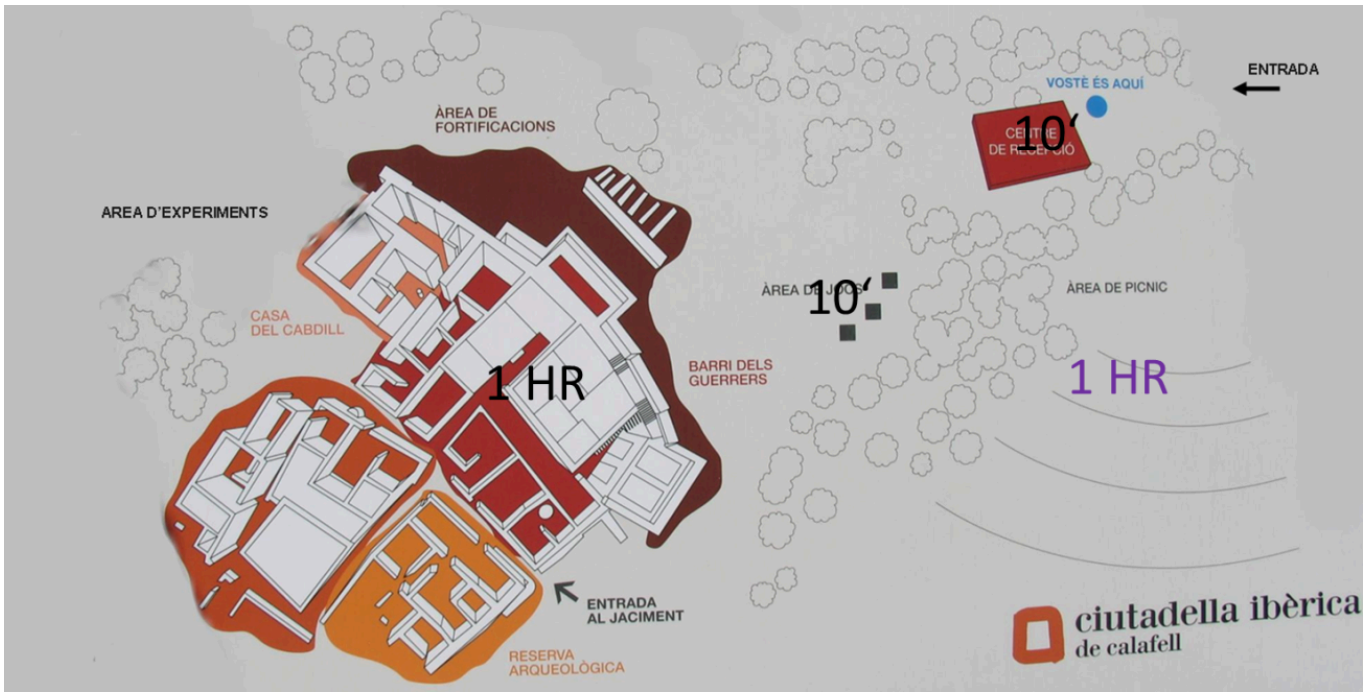


FIG 3. A MAP OF CIUTADELLA IBÈRICA DE CALAFELL (ES) WITH ESTIMATION OF TIME SPENT AT DIFFERENT POINTS

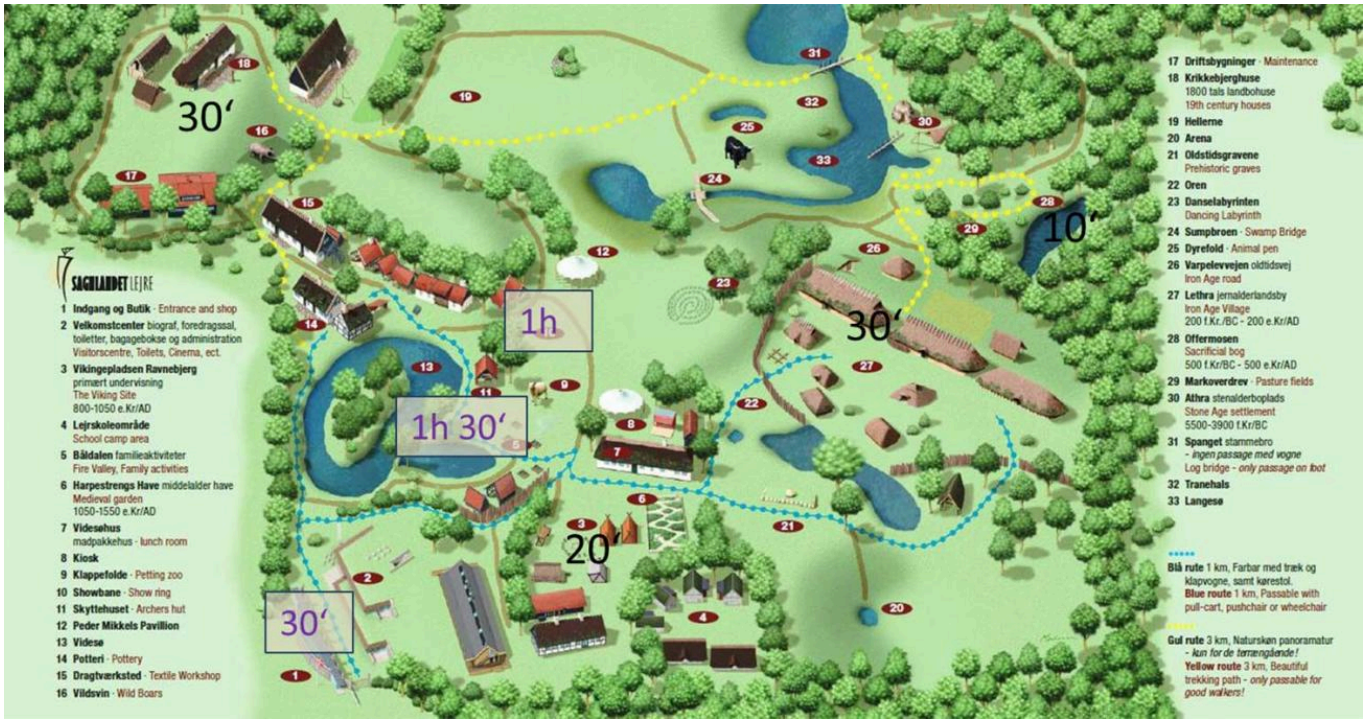


FIG 4. A MAP OF SAGNLANDET LEJRE (DK) WITH ESTIMATION OF TIME SPENT AT DIFFERENT POINTS

Method	Costs (minimum)	Time consumption	Extra ticket possible
1:1 reconstruction	10.000–500.000 eur	30'	-
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FIG 5. COST-BENEFIT ANALYSIS BETWEEN INVESTMENT COSTS AND TIME CONSUPTION.