

The Impact of Exhibit Arrangement on Visitors' Emotions: a Study at the Victoria & Albert Museum

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Abstract

Do emotions impact the degree of visitors' satisfaction? Can exhibit arrangement contribute to arousing these emotions? Re-postulating previous theories and proposing new ones, this work focuses on exhibit arrangement, an oftentimes neglected variable, and the possibility of interaction between arrangement and visitors. In particular, this paper underscores the fact that an engaging, interactive exhibit arrangement can impact the emotions of visitors, and in doing so, influence their behaviors and degree of satisfaction. This is why it is essential for museums and exhibition centers to understand the potential of every arrangement, in order to consciously manage the consequences in emotional and behavioral terms, thus improving economic and institutional results. This empirical study was conducted in the British Galleries of the Victoria & Albert Museum in London. Our work involves a comparison of an innovative, interactive exhibit arrangement and a traditional one, and confirms theoretical results as well as providing insightful ideas.

Keywords

Emotion, satisfaction, museum, exhibit arrangement, layout.

1. Introduction

In an economy which today is defined "experience economy", marketing studies have expended a great deal of effort in analyzing the variety of reactions that can arise from experiences. Given its usefulness and applicability, most research has concentrated on the consumer experience in commercial spheres.

Our interest in conducting this study, instead, is the museum context, the visitors' experience and reactions that can result from it. In reflecting on reactions that a visit to an exhibition area can elicit, the words learning, aesthetic appreciation, interest, boredom, intellectual fulfilment all

come to mind. Already from these few random examples, we realize that reactions triggered by a museum visit can be divided into two broad categories: cognitive and emotive.

We find this same division (not by chance) in the results of all research conducted over the past twenty years for the purpose of pinpointing factors that impact level of satisfaction. As we know, determinants of individual satisfaction can be grouped together in exactly the same way: as cognitive or emotive variables. It follows that a museum visit, just like any other experience, generates cognitive and emotive reactions that impact the level of satisfaction of the visitor to differing degrees.

Studies on visitor satisfaction till today are very few, because little research has yet to concentrate on the museum sector, especially from a managerial viewpoint. Consumer satisfaction, instead, has been the topic of much study. In fact, the consumer is a broader, more common figure, who takes on fundamental importance for a large number of business concerns. So it is worthwhile, for our purposes, to begin with the theories developed regarding the consumer and the retail sector, and then apply them, with due considerations and modifications, to our area of interest.

Research on consumer behavior and on determinants of consumer satisfaction has undergone a profound evolution in recent years. Today such studies attribute primary importance to the role that emotions can play (till now an unexpected one) within the process of shaping levels of satisfaction. It is precisely the role of emotions that is the central theme of our study.

In any case, initially only cognitive variables were taken into consideration in consumer behavior research, such as assessments of product features, cognitive processes that confirm expectations, judgements on iniquity or causal attributions [Oliver, 1980; Oliver and Bearden, 1983; Oliver and De Sarbo, 1988]. The resulting theories quickly manifested certain weak points, the most important being that consumers are seen as elaborators of information who analyze all factors available to them before making a decision. Awareness of the fact that the consumer actually makes few cognitive considerations before making a decision has led to an increase in the number of studies on the role of emotions.

Emotions can be defined on the basis of two fundamental dimensions: pleasure and arousal [Russel, 1979; Russell, 1980]. Superimposing this schema on variations proposed by Watson and Tellegen [1985], Mano and Oliver [1993] take one step further in defining emotions, building the circumplex model. This allows us to describe affective space in a more detailed way by using a model (based on the categories of weak positive emotions, strong positive emotions, weak negative emotions, and strong negative emotions) where any kind of emotion can be positioned.

These studies have provided the reference points for later theories that sought to identify the relationship between emotions and satisfaction, and which constitute a fundamental premise of our study. In particular, Oliver and Westbrook [Westbrook, 1987; Oliver, 1989; Oliver and Westbrook, 1991; Oliver 1993], in a series of publications in which they examine the question in ever greater detail, conclude that satisfaction is determined not only by cognitive processes, but also by other processes that involve the integration of various affective experiences stimulated by the product. Emotive variables are thus attributed vital importance, and satisfaction is defined, at least partially, as an affective experience.

Using this result as a takeoff point, Wirtz, Mattila and Tan [2000] propose an interpretation of the way in which emotions influence satisfaction. These authors assert that every person,

depending on personal objectives linked to consumption, is seeking a different level of arousal, and that the creation of services that fulfil her desires can enhance customer satisfaction. From the central role assigned to the emotional variable of arousal comes the name of this theory: target-arousal.

In light of this research, today it is commonly held that emotions play a highly motivating role in consumer behavior. Emotions give us a deeper understanding of the experiential aspects of consumption, and are associated with the degree of consumer satisfaction by a strongly influential relationship.

Now we want to take another step, ascertaining whether these same results, arising from research in the retail sector, can be applied in a context which has not often been considered in these studies, that of museums.

In actual fact, when referring to cultural products, emotions take on even greater weight. As emphasized by Colbert [2000], such products target the sensorial and hedonistic side of the consumer to a larger extent than all others. Moreover, in the decision-making process, often it proves a complex task to provide a cognitive assessment for cultural products and services, because their benefits are difficult to identify, and even more problematical to measure. In the cultural sector, therefore, visitor behavior is strongly influenced by emotional variables to an even greater degree than in sectors in which the theories described above were developed.

One study that supports this affirmation was conducted by Caldwell [2001], who discovered that one of the factors that visitors consider important during their visit is the ability of the museum to stimulate emotions. Caldwell leaves the task of determining which factors can arouse such emotions to successive research. In fact, the purpose of this article is to provide a legitimate answer to the question he raises in stating "but [...] it is not clear what makes a museum visit 'enjoyable' or 'interesting' to individuals."

What is it, then, that arouses emotions during a visit to a museum?

Art, which is fruit of human creativity, springs from a need for expression and communication, and has an enormous capacity to convey emotions. Added to this is the fact that art is the focal point of a museum – the very reason for its existence. A museum's works of art have always been entrusted with the task of communicating to visitors.

However, very rarely does a museum, intended as a place where artwork is kept, attempt to communicate or arouse emotions. Museums, in fact, are often seen as exhibitors of art, destined to conserve and enhance the value of art. It is true that museums have already been the topic of many marketing studies. Despite this fact, the progress made in recent years (thanks to the goals of greater profitability and cultural development) has only affected the content of museums, i.e. artwork and additional services. Every exhibition area, however, is made up of many other elements that can take on a key role in terms of the experience of visiting a museum.

Beginning with this observation, our intention with this study is to take a further step, theorizing that exhibit arrangement in a museum can constitute a determinant to visitors' emotions. In moving in this direction we offer an answer to Caldwell's question. Our aim, then, is to demonstrate that not only artwork, but also exhibit arrangement can influence those emotions that prior research identifies as determinants to visitors' satisfaction and much of their behavior.

This can happen if exhibit arrangement is designed in such a way as to allow interaction with visitors.

In light of these premises and observations, at this point we can state the goal of our work: to investigate the relationship between exhibit arrangement and the visitor during a visit to an exhibition area, focusing attention on the emotional aspect of the person. Specifically, our objective is to ascertain if there is a relationship between exhibition environment, emotions, behaviors that follow, and satisfaction. We wish to discover how this relationship is structured, and consequently identify what characteristics an exhibit arrangement should possess to impact these variables in a positive way.

At this point, therefore, we propose the first three hypotheses that we intend to prove through the empirical study described in the following pages. We compare two types of exhibit arrangements: one, defined as interactive, the purpose of which is to establish a relationship with the visitor, and another more traditional one, meant simply to exhibit artwork.

First of all, we hypothesize that *an interactive exhibit arrangement has a greater positive influence on enjoyment of the gallery than a traditional exhibit arrangement* (H1). Specifically taking into account the emotional variable, we then mean to prove that *an interactive exhibit arrangement has a greater positive influence on the emotions experienced by the visitor in the gallery than a traditional exhibit arrangement* (H2). Lastly, we wish to focus on the ability of certain types of arrangements to communicate with visitors, engaging them in the museum experience. Based on this consideration, we hypothesize that *an interactive exhibit arrangement has a greater positive influence on the emotional involvement of the visitor in the gallery than a traditional exhibit arrangement* (H3).

In order to more thoroughly investigate the latter aspect of the museum visit regarding involvement, we propose two further hypotheses which do not include a comparison between the two types of exhibits. Instead we take an interactive exhibit and evaluate the actual use of devices on involvement. Our primary aim is to demonstrate that *emotional involvement of visitors in a gallery characterized by an interactive layout is positively influenced by the use of exhibition components* (H4). Likewise, but from a different viewpoint, we want to show that *the opinion that exhibition components increase involvement is positively influenced by the use of these same components* (H5).

The relevance that this study may hold for a museum derives precisely from the attention it focuses on one variable – emotion. In fact, because of the link between this variable and level of satisfaction, emotion can have a decisive impact on a museum's cultural and economic results.

Till today exhibit arrangement has received little attention from this standpoint because, for the most part, only its technical/functional nature has been examined. One of the few studies that focuses on museum exhibits was undertaken by Morna Hinton [1998], later head of the British Galleries Project. This study investigates devices that can be part of an exhibit, analyzing them in relation to learning styles. The research project, both due to its primary focus of analysis and the methodology utilized, represents a fascinating premise for this work, which centers instead on emotions, a variable which is completely new in this context.

2. Exhibit Arrangement

Exhibit arrangement is nothing more than the environmental context of the exhibition areas and the way in which artwork is arranged in this space. It is made up of various elements which, depending on how each is used in every situation, come together to form a different arrangement every time. The exhibition path, exhibition modules, lighting, visual communication, and interactive and multimedia tools can be seen as fundamental factors that constitute exhibit arrangement. Choices relating to the use of each component must be made while respecting the basic idea underlying the entire project, the so-called “big idea”. This way, such decisions will be in harmony with one another, coming together to form a whole, and the risk that they run counter to the principles of the event will be avoided.

As one can easily imagine, exhibition arrangement is an essential variable within the exhibition area. Though the functional side of exhibit arrangement is immediately grasped, as this aspect serves expository purposes, even at first glance it is clear that this arrangement is an indispensable variable in every exhibit, one which inevitably comes in contact with all visitors.

In this article, then, we maintain that exhibit arrangement is an element which can give rise to emotions in visitors. If it is artwork that constitutes the content of the museum, the layout (seemingly simple context) from the viewpoint of the visitor actually becomes the content of the visit alongside the artwork itself.

The approach used in a study by Joy and Sherry [2003], which was also developed in the museum sector, provides support for our hypotheses. These two authors, in fact, highlight the capacity of the exhibition, the atmosphere created and above all the exhibit arrangement, to engage visitors and elicit reactions by stimulating the five senses. The focus, in other words, is the physical nature of the consumption experience, which arises from the capacity of the environment to connect with the senses, and in this way make people live an experience. This article is one of the few studies in marketing literature that focuses attention on exhibit arrangement, moving beyond its purely functional connotation to consider it an element able to connect in a deeper and more complex way with the visitor.

Though most of this research concentrates on a specific aspect of exhibit arrangement rather than the overall role of the arrangement variable, we can nonetheless find useful notions for our study. An example is an article by Stevenson [1991], which shows that interactivity offered in certain exhibition areas, by stimulating interest and enthusiasm, has a long-term impact on the visitor and memory, and positively influences learning. In this regard, in our study too we wish to evaluate the impact of exhibit arrangement on learning, comparing the two types mentioned above. We hypothesize, therefore, that *an interactive exhibit arrangement has a greater positive influence on the level of learning perceived by the visitor than a traditional exhibit arrangement* (H6). Taking into account only interactive exhibit arrangements, our next step in this direction is to judge *if the opinion that exhibit components facilitate learning is positively influenced by the use of these components* (H7).

Exhibit arrangement is also the focus of research conducted by Falk [1993], who concentrates particular attention on the museum path. Results of this experiment enabled the author to underscore the capacity of the museum path to influence the emotions of the visitor, demonstrating that such emotions, in turn, are the cause of behavior adopted along the museum path itself.

Lastly, exhibit arrangement (specifically its ability to prompt the visitor to interact) is the topic of a study by Gilbert and Stocklmayer [2001], who bring to light the dual role that interactive components can play. In order for interactivity in a museum path to represent added value for the visitor, interactive devices should be designed to become a source of fun as well as learning.

If learning is the focal point of the previous hypothesis, here we wish to direct our attention to the ability of the exhibit arrangement to entertain, hypothesizing that *an interactive exhibit arrangement focuses more on entertainment than a traditional one* (H8). From results relating to these last hypotheses, we can then assess the ability of an interactive arrangement to be a source of both entertainment and learning at the same time.

As regards involvement, at this point we also want to assess if enjoyment (or lack of enjoyment) of the level of entertainment is influenced by the use of exhibit components. Our hypothesis is that *visitors' enjoyment of the entertainment potential of a gallery characterized by an interactive exhibit arrangement is positively influenced by the use of exhibit components* (H9).

Lastly, comparing the two types of exhibit arrangements in question (which are detailed in the next section) we wish to evaluate the level of awareness of visitors regarding the richness of devices and information made available in an exhibition area. This involves quite an important variable, because awareness causes visitors to pay more attention to exhibit devices. Moreover, when visitors notice the effort made by the gallery to focus on the relationship between museum and visitor, this can enhance satisfaction with the service. Consequently, we hypothesize that *an interactive exhibit arrangement has a greater positive influence on the ability of the visitor to spontaneously note certain exhibition components more than a traditional exhibit arrangement* (H10).

3. Research Design

By means of our empirical research, we attempt to achieve the goal described in the previous pages: to understand if and how exhibit arrangement impacts the emotions of visitors and, through these emotions, their level of satisfaction. As previously mentioned, with this empirical study our intention is to compare an interactive exhibit with a traditional one, to bring out the ability of certain types of exhibition arrangements to connect with visitors and their emotional sphere.

The study was conducted at the Victoria & Albert Museum in London, the largest museum of decorative art in the world. This museum houses an enormous collection of artwork from all over the world, attesting to two thousand years of art history. Given the vastness and variety of the collection, the V&A is made up of an assortment of exhibition areas that have extremely varied characteristics. This museum, therefore, provides the ideal context for a comparative study of different types of exhibit arrangements. A central role in this study is assigned to the British Galleries, which were remodelled and reopened in 2001. The layout of these galleries is strongly oriented toward interaction and emotional stimulation of visitors. To give a few examples, passing through the British Galleries, one finds objects displayed in such a way as to invite visitors to touch them, overcoming the traditional barrier typical of museums. Visitors can use interactive screens for play or to learn more about the artwork; there are also riddles to solve. Other attractions are the Discover Areas, which offer children and adults the chance for relaxing play time. The stage-like Period Rooms are taken from their original locations and

reassembled in the museum in order to recreate the style and atmosphere of a historical era in a unique and memorable way.

These galleries, or rather the layout of these galleries, are compared to the exhibit arrangements and atmosphere of other galleries in the same museum which have a more traditional bent, where exhibit components serve “solely” to display the works of art and enhance their beauty, without aspiring to stimulate the visitor to interact in any way.

Summing up, then, the goal we set for ourselves in this work is twofold. Most importantly, we intend to compare the impact on visitors of an interactive exhibit with respect to a traditional one. We wish to ascertain whether the former, represented by the British Galleries, is actually capable of exerting greater influence on the emotions of the visitors, and along with this also on the level of satisfaction. Secondly, with this study our aim is to identify the relationships of influence that link the use of exhibition components to the manifestation of particular opinions or emotional states.

As regards the first objective, the hypotheses put forth have drawn a connection between the gallery in question and certain dependent variables: *enjoyment* of the gallery, *emotions* experienced, perceived level of *learning*, enjoyment of the orientation toward *entertainment*, emotional *involvement*, and *aspects of the exhibit arrangement noticed spontaneously*. The characteristics chosen for evaluating the impact of the exhibit arrangement is, in some cases, also confirmed by the study carried out by Caldwell. Leaving it up to visitors to point out the factors that prompt them to visit a given museum rather than another, among the top ten we find “interesting”, “educational”, and “enjoyable”. This demonstrates that these variables have a determinant influence on the level of satisfaction of visitors and what they choose to visit.

Regarding the second objective described, with the hypotheses put forth (H4, H5, H7, H9) we intend to gauge how much the use of exhibit components found in the galleries with interactive exhibits can stimulate *involvement*, declarations of the enjoyment of *entertainment*, as well as the judgment *whether or not these components facilitate learning and involvement*.

The empirical study was conducted by having a sample of visitors to the Victoria & Albert Museum answer a set of questions on the quality of their experience. These visitors were selected at random from those who had visited the entire exhibition area being studied. The 113 semi-structured interviews were personally conducted with each visitor in the sample. The final sample was made up of 44 men and 69 women from 15 different countries. This gender/nationality breakdown accurately reflects the norm for the entire museum.

Eleven identical questions, plus three regarding personal information, were put to both groups of visitors (those who visited the British Galleries and those who did not). The data collected from interviews were decoded by means of the variables we were most interested in testing, i.e. those addressed in the initial hypotheses. Using this as a framework, a comparison was made between the answers given by the two groups of visitors to bring to light similarities and differences. In particular, a connection was drawn between the variable “gallery” and each of the dependent variables. The results were also subject to two tests: the *chi-square test* and *Cramer’s V test*.

The part of the study relating to the second objective was carried out by having 62 pre-selected British Galleries visitors respond to a more detailed set of questions. In addition to the 14 previous questions, 6 more were added to demonstrate hypotheses H4, H5, H7, and H9. The resulting sample was made up of 20 men and 41 women from 9 different countries.

In this case too an analysis of the answers allowed us to place variables in relation to one another so as to understand their reciprocal influence. Specifically, each of the four variables addressed in the hypotheses was crossed with the variables that describe the use of exhibit components. The objective was to understand whether or not interaction with such components actually served as a stimulus for dependent variables, and which ones had the greatest effect.

These results, as in the first part of the study, were subjected to the two tests mentioned above.

4. Results

The first hypothesis deals with enjoyment of the gallery that the interviewees had visited. Analyzing the answers given by visitors to the first question in the survey, on the contingency table we crossed the variable “gallery” with the variable “enjoyment”. From the results we can assert that both groups of interviewees enjoyed the exhibition. More specifically, this can be said of nearly all the British Galleries visitors; where the other galleries were concerned around 21% said they were not satisfied. Given that the two tests guarantee the validity of the relationship ($p < .001$ and Cramer’s $V = .322$), we can affirm that the results confirm H1.

It is only natural at this point to ask respondents (as we did) the reasons for their level of satisfaction. From the answers that were given, what clearly emerges is that the attraction of the traditional galleries lies solely in the value and beauty of the artwork; the rather uninteresting exhibit arrangement makes no contribution. The reason for satisfaction most often put forward by the British Galleries visitors, instead, is actually the exhibit arrangement.

The second hypothesis (H2) addressed the kinds of emotions which are aroused during the museum visit. Given, as one would expect, that the interviewees expressed a wide variety of emotions, we grouped these data on the basis of the circumplex model, identifying each emotion expressed by visitors in one of the model’s four categories. This way, it was possible to draw up a contingency table giving significant, interesting results, by crossing the variable “gallery” with the variable “emotions aroused”. From the results, we can see that the correlation between the two variables can not be considered significant ($p = .130$ and Cramer’s $V = .224$). As “gallery” changes, none of the emotional aspects which are inherent to the emotional states of the visitors varies to any significant extent. Nonetheless, a marked difference between the two galleries does exist. It centers, in fact, on the strong, positive emotions experienced among many more visitors to the British Galleries. In conclusion, H2 can not be confirmed. What emerges is that the expression of positive emotions is nearly identical between visitors of the two groups of galleries in our study. Clearly the other galleries also stimulate emotions, but this happens because of the quality of artwork on display rather than the exhibit arrangement.

With H3, our aim is to compare the degree of involvement inspired by the two types of exhibit arrangements. Following the approach used in the preceding cases, we placed the variable “gallery” along with “emotional involvement” in the contingency table. The results show that the level of emotional involvement is significantly correlated to the gallery ($p < .01$ and Cramer’s $V = .367$). The British Galleries, in fact, elicit an emotional involvement in 77% of visitors, compared to 45% of other galleries. In examining individual surveys, one can see that the people who make up this 45% are the same ones who said they enjoyed the gallery because of the beauty of the artwork or for specific interests. Quite probably, then, for these visitors emotional involvement was stimulated by the beauty of the art more so than the quality of the exhibit arrangement.

In conclusion, the empirical research confirmed H3.

In verifying H4 in the second part of the study, which centered exclusively on the British Galleries, we closely examined the question of emotional involvement. Our premise was that all components of the exhibit arrangement affected this variable. The “involvement” variable was crossed with each independent variable, represented by the following exhibit features found in the British Galleries: the chance for visitors to touch objects on display, interactive screens, Discovery Areas, riddles, lighting, Period Rooms (which make it possible for visitors to step back into the past). Results partially confirm the hypothesis: emotional involvement of visitors is influenced by the use of some exhibit features. Specifically, in the empirical study involvement is positively influenced by the opportunity to touch objects ($p < .001$ and Cramer’s $V = .631$), the use of screens ($p = .054$ and Cramer’s $V = .344$), and the experience in the Discovery Areas ($p < .01$ and Cramer’s $V = .411$). However, when lighting is noticed this negatively influences the degree of involvement, perhaps due to greater awareness of the environment. Neither riddles nor experiencing the past in Period Rooms are linked to this variable in any significant way.

Once again in terms of involvement, H5 centers for the most part on an opinion, which could be different from the experience of the museum visit. The answers furnished by the people in the sample, expressing their view on whether or not the exhibit components of the British Galleries are able to enhance emotional involvement, were compared to the use of single exhibit components by visitors. This was done to verify if a relationship exists between interaction with these features and the acknowledgement of their ability to increase involvement. We find that H5 is confirmed only partially, because not all exhibit components influence dependent variables. The study highlights that among the variables taken into consideration, only Discovery Areas ($p < .05$ and Cramer’s $V = .353$) and the experience of touching objects ($p < .01$ and Cramer’s $V = .441$) had a positive influence on the opinion expressed by interviewees regarding the ability of exhibit features to enhance involvement.

To complete the analysis, we decided to verify if the opinion that exhibit features increase involvement, independent of the use of most of these components, was influenced by involvement experienced during the visit. Results actually showed a significant correlation ($p = .06$ and Cramer’s $V = .290$). Consequently, the intensity of the feeling of involvement influenced visitors’ final judgement on exhibit components.

The aim of the sixth hypothesis (H6) is to verify the impact of the exhibit arrangement on learning. Our intention was not to discover if the galleries were actually able to generate learning. The reason why is that this outcome, as we have seen, has to be observed in the long term. Instead we simply wanted to ascertain whether visitors thought they had learned something from their museum experience. For this reason, we asked for a personal opinion, which also provided essential information on the degree of satisfaction. Indeed, visitors who have the feeling they have learned something from the experience will most likely be more satisfied by the visit. The results clearly show that the two variables analysed in this table are linked by a significant relationship of average intensity ($p < .01$ and Cramer’s $V = .324$). Though the difference between the two galleries is minimal in terms of visitors who claim they have learned a great deal, this gap increases if interviewees are considered who simply had the impression of having learned something: 48 visitors to the British Galleries (77%) give this answer, as compared to 32 from the other galleries (63%).

The most relevant difference, though, has to do with those people who say they learned nothing from their visit. Among visitors to the British Galleries this is the case for only one person, while 11 interviewees from the other galleries give this answer. This is a crucial piece of information.

In fact, it underscores the ability of the British Galleries, (thanks in part to numerous exhibit devices that enrich information and facilitate memorization,) to give visitors the impression they have learned, a feeling which will probably be followed up by actual learning. The reason why in other galleries 22% of interviewees say they did not learn anything can be explained primarily by the lack of information provided in the other galleries in question, where the works of art are not related to one another in any way, nor are they placed in any sort of context. If this was done comprehension - and learning - would be facilitated.

In conclusion, we can state that the study confirmed H6.

To delve more deeply into the topic of learning and evaluate whether interviewees believe that exhibit components constitute a variable which can facilitate learning (or rather one which distracts visitors from the artwork), we put forth the seventh hypothesis (H7). To verify it, the variable "ability to facilitate learning" was crossed with the variables that describe the degree of interaction with exhibit components. The results underscore that the belief that exhibit components play an educational role is, above all, an opinion. This opinion can not be influenced to any great extent by activities performed during the visit. The exception is multimedia screens ($p=.064$ and Cramer's $V = .252$), which due to their features play a key role in forming the opinion in question.

In order to take into account an additional variable, we decided to verify if this opinion was influenced by the perception of learning expressed in the previous hypothesis. Crossing the two variables in the contingency table, an insignificant relationship emerged ($p=.711$ and Cramer's $V = .171$), which confirms previous observations. This result places particular emphasis on the fact that those who believe they learned during the visit tend not to attribute this learning to interactive exhibit features. The natural tendency, in fact, is to consider these components as a means of entertainment, as we have seen regarding H5.

Summing up, then, the empirical research confirmed H7 only in terms of the positive influence of the use of exhibit components especially oriented toward information, which are also able to encourage memorization.

To analyze a critical exhibit variable, and to verify H8, we asked visitors if they thought that the focus of the gallery was entertainment, and then if they appreciated this focus, be it intense or moderate. The premise that served as our starting point was that the British Galleries were more centered on entertainment, but we wanted to verify if and where (i.e. in which galleries) visitors perceived this focus, and how they felt about it. In fact, in terms of personal characteristics and the way they identified with the museum, visitors might appreciate this focus, or judge it intrusive or infantile. If instead they did not consider the gallery interactive, we wanted to find out what their opinion on this characteristic was.

Therefore we crossed the variable "gallery" with "perception of focus on entertainment" which proved to be linked by a particularly significant and very strong correlation ($p.<.001$ and Cramer's $V = .757$). While most visitors to the British Galleries believe the focus there lies on entertainment, only 4 visitors from the other galleries give this answer, though 3 of them say that "entertainment came from the objects". Apart from these data, it is also interesting to note that 7 people express the viewpoint that the exhibit arrangement of the British Galleries has a strong educational role rather than one of entertainment. (These responses were counted among the "no's".)

Before turning to an analysis of these results, it is useful to present those relative to the following question. The correlation between the gallery and enjoyment of the level of entertainment is linked and subordinate to that between the two preceding variables, and is equally significant ($p < .001$ and Cramer's $V = .793$). Among the 50 visitors of the opinion that the British Galleries focus on entertainment, 48 say that they appreciate this characteristic. This fact is vitally important because it indicates that exhibit components are successful in achieving their objectives of interaction and fun without coming across as intrusive, excessive, or infantile.

For a more comprehensive analysis, we refer back to the results of H3, which affirm that the British Galleries generate a perception of learning that is superior to that of other galleries. If we take into account these results too, we can confirm that the exhibit arrangement in the British Galleries succeeds in attaining the right balance between objectives of fun and learning. It is precisely these objectives which are so crucial today for a museum, and which Gilbert and Stockmayer (2001) indicate as the solution to many problems.

As far as the interviewees who did not make note of any particular focus on entertainment in the galleries they visited, the 3 British Galleries visitors say they appreciated this choice. The 50 visitors of other galleries (who answered that there was no entertainment, that there was very little, or that the only entertainment came only from the works of art on display) are nearly evenly divided between those who say that they would like to see greater attention paid to entertainment (28 people), and those who state they prefer the current situation (22 people). The latter group justify their opinion in various ways, claiming that entertainment is more suitable for children, that it takes away from the works of art on display, or that it is not suited to the characteristics of the gallery in question.

It is intriguing to reflect on this difference of opinion between the two categories of visitors. Those who visit a place where exhibit arrangement clearly serves to entertain (among other things) very much appreciate this aspect. Others instead visit a more traditional gallery where less attention is paid to entertainment, and of these people 43% say they are pleased with this characteristic. We can suppose, at this point, that a part of this 43% imagines that introducing an entertainment-oriented approach would have undesirable results, such as the use of intrusive or inopportune devices. In other words, this group of people is unable to envisage an exhibit arrangement that reconciles interaction with total respect for artwork on display, a balance that, according to the opinion of interviewees, is attained in the British Galleries. Such prejudice regarding entertainment in the context of a museum may derive from the habit of visiting traditional exhibits, or even from negative experiences in interactive museums (especially science museums, which make excessive and inappropriate use of multimedia equipment).

In conclusion, we can verify that the study confirms H8: not only the focus on entertainment was noted by most visitors to the British Galleries, but nearly all of these people were pleased with this characteristic.

The ninth hypothesis (H9) asserts that the interaction of visitors with exhibition components can be a positive stimulus for enjoyment of the level of entertainment that characterizes interactive galleries. That is, we begin with the premise that the people who use these components are then able to appreciate them more and understand their effectiveness. As in the previous cases, to verify this hypothesis, the variable "enjoyment of the level of entertainment" was crossed with every variable that describes the use of exhibition components. The results of the study partially confirmed the initial hypothesis: enjoyment of the level of entertainment is not positively influenced by interaction with every exhibition component, but in the specific context of the

study, only by the fact that visitors touched certain objects ($p=.065$ and Cramer's $V = .330$) or used screens found along the museum path ($p.<.05$ and Cramer's $V = .294$).

Lastly, in demonstrating H10, we sought to understand if visitors spontaneously noticed any exhibit components during their visit. Answers given by interviewees were placed in relation to the variable "gallery". Results show that the ability to note components which have nothing to do with the artwork is significantly correlated to the gallery ($p.<.001$ and Cramer's $V = .502$). The numerous exhibition devices placed along the museum path of the British Galleries, and the exhibit arrangement in general, are mentioned by most visitors (84%) with no prompting from interviewers. In every case they have a positive recollection of these features. On the other hand, in the other galleries included in the study, where exhibit arrangement is more traditional and makes use of fewer devices, half of the interviewees did not notice anything spontaneously, while 9 visitors actually went so far as to stress the inadequacies of the exhibit arrangement.

In light of these results, we can confirm H10, which states that an interactive exhibit arrangement has a more positive influence on the ability of the visitor to spontaneously note exhibition components than a traditional one. As we have already emphasized, awareness of the richness of devices available during the museum experience ensures that visitors use them more extensively. More importantly, this awareness can increase visitors' satisfaction with a service which they perceive to focus constant attention on the relationship between museum and visitor.

5. Conclusions

The study brings to light the positive influence that an interactive exhibit arrangement has on the emotions of visitors and on their level of satisfaction.

Recapping the main points of the study, we have seen that British Galleries visitors are more strongly influenced from an emotional standpoint than visitors to galleries that were used as a comparison. The reason for this difference lies for the most part in the exhibition arrangement of the galleries.

Through our research, our hope is to draw attention to the fact that by designing an exhibit that meets with the interests of visitors, the museum can arouse their emotions. From these emotions come behaviors adopted with respect to the visit and to the museum. The degree of satisfaction is influenced as well, as we have already discussed. These results, seemingly of a personal nature, can instead have an enormous impact for a museum in terms of reaching its cultural and economic goals.

Therefore, to excite emotions and establish a relationship of communication with visitors, a number of different qualities are essential in an exhibit arrangement: (i) it must be engaging and interactive, encouraging people to active participation; (ii) it must provide a large quantity of information through various channels to suit different learning styles; (iii) it must meet the need for calmness in some visitors and fun in others; (iv) by relying on lighting as much as visual communication, the exhibit arrangement should create an overall atmosphere that does not disturb those who simply want to focus on the artwork, yet which enhances the museum experience for everyone else. The final goal must be to make art accessible and appealing to those who do not have basic knowledge of art and, at the same time, to enrich the learning process for those who have some experience without making the environment trite or infantile.

The exhibit arrangement of the British Galleries, despite some flaws, succeeds in bringing together these characteristics. The study carried out in these galleries, housed in the Victoria & Albert Museum, confirms theoretical results. What becomes apparent is that the British Galleries have the capacity to positively stimulate enjoyment, learning, appreciation of the level of entertainment, involvement and the ability to take closer note of the exhibit arrangement compared to more traditional galleries. These results can be broadly attributed to exhibit arrangements. In fact, the noteworthy results that emerged from interviews conducted with visitors to the British Galleries derive from the use of certain exhibition components.

The only apparent exception is that visitors to the British Galleries and to the traditional galleries seem to consciously feel the same kinds of emotions. Only by broadening the field of vision to encompass a more complete picture of the entire set of results is it possible to bring to light the superior ability of the exhibit arrangement in the British Galleries, which is more heterogeneous and interactive, to impact the emotional component of variables such as involvement, learning, and enjoyment, which account for the degree of satisfaction of visitors.

Summing up, then, the results of our study now allow us to affirm that exhibit arrangement, if designed in such a way as to interact with visitors and respond to their needs, influences their emotions to a significant degree, more so than what is generally assumed in the museum sector.

In the future, this topic could be investigated further by focusing attention on the impact that a communication-centered layout might have on the revenue of an institution. In other words, a study could be made of the economic and cultural consequences of certain exhibit arrangements that stimulate emotions in visitors, influencing behavior. Depending on results that each decision produces, both singularly and in relation to other exhibit variables, it would be possible to pinpoint the most appropriate exhibit arrangements for the situation and the specific objectives of the institution.

Another interesting development from this work could be a study of a conception of a museum exhibit arrangement particularly suited to positively influencing visitors' emotions in small museums and galleries. With some adaptations, the British Galleries model and the theoretical conclusions of this work could be applied to this type of situation with fascinating, groundbreaking results.

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