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Profiling the Two Most Populous Generations of the PIIGS countries in the Workplace based in Online Consumption of Cultural Contents

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Abstract — **The technological advances and the massive use of the Internet have led to the emergence of new business models based on the access online. One of the industries that most visibly had to adapt to the new reality was the production and dissemination of cultural contents, preparing for a consumer that is already native or casual digital. However, the new business model, especially, the one which implies access paid to cultural content, namely music, movies, TV series, images and news, does not still show a great success. In order to understand how the consumers of the generations X and Y (Millennials), from countries with unfavorable economic conditions, known as PIIGS, have adhered to the reality of online consumption of cultural content. The results from the Flash Eurobarometer 437: "Internet users' preferences for online accessing content" show the existence of three groups of consumers, and only one of them has a propensity to access paid content. Thus, by knowing the profiles of these three groups of consumers, it is possible to direct marketing campaigns tailored to each of them and to evaluate possible ways to convert consumers that only use of free services into consumers of paid services.**

Keywords - ***Internet; streaming; music; movies; online cultural contents.***

I. INTRODUCTION

The two most populous generations in the workplace are Gen X (born between mid-1960s and early-1980s) and Millennials (born between early-1980s and mid-1990s) [1]. Moreover, the Generational Cohort Theory states that groups of individuals who experienced the same social, economic, political, and cultural events during early adulthood (17–23 years) would share similar values throughout their lives. Moreover, they would act similarly when making decisions in different aspects of life, particularly when making decisions as consumers [2].

Today, there are more than 3 billion Internet users worldwide, representing around 40% of the world population [3], that had an important role on the creation and development of new business models. Several companies have implemented new and creative online businesses. Nowadays, the use of Internet grows exponentially, becoming significant its presence in everyday activities. Trends show that the Internet is increasingly the content provider worldwide.

Moreover, as social networks become the main means / place for the dissemination of information created by individuals, companies and organizations, forecasting the popularity of online content is increasingly important for brand reputation management [4].

Regarding cultural content, the Internet provides free and / or paid access services of music, movies, images, and news, for example. This dissemination of contents allows consumers to access the desired content and at the desired time, leading, for example, that media companies have been increasingly betting on the access online. However, different countries and cultures see these services differently [5], in particular as regards their payment [6][7][8]. On the other hand, the financial and social crisis that some countries faced may have conditioned the consumers of these types of services in their adhesion and, consequently, may had compromised the success of the online business from the providers point of view of cultural content.

It is in this context that this research aims to know how the consumers of these five countries known as PIIGS, Portugal, Italy, Ireland, Greece and Spain, due to their economic vulnerabilities (with excessive public deficits) access online to cultural content. But, will be the choices homogeneous among the PIIGS consumers or will be possible to identify consumer's profiles, according to their choices when accessing online contents?

This paper contributes to this subject by showing a segmentation of online users based on their perceptions about the preferred type of services used when accessing cultural contents online. Such a segmentation allows the raise of critical issues related to the cultural contents that can support some policy decisions target to each cluster of online users.

II. LITERATURE REVIEW

The literature review starts by tracing the evolution of the Internet use. Next, identifies the consumption of online cultural products and the services offered from the operators.

A. *The evolution of the internet use*

The use of the Internet has been growing at an exponential rate. Today, there are more than 3 billion Internet users worldwide, representing around 40% of the world population and it is considered significant its presence in everyday life and in society [3]. The consolidation of the Internet has brought new ways of accessing and creating content online that covers a wide spectrum of news, search results, referrals, entertainment and

shopping guide offers [8]. On the other hand, people are increasingly sharing information and knowledge in online communities [9].

Since Internet access is becoming more and more a constant need in society, there are platforms that deliver content through this network. For instance, streaming platforms bring together a set of own or third-party content into large catalogs of content that can be accessed via the Internet [10]. These platforms tend to take advantage of the multitude of media and displays that are currently available to the majority of the public.

Consumers spend more money and time online taking advantage of the interactivity of the surroundings, the increase and power of choice and the freedom it offers. This digital shift cannot be ignored as more viewers are expected to move from TV broadcast to online video supported by ads [11]. In many countries, Netflix and Amazon streaming services are increasingly popular.

B. Online Cultural Contents

The growth of the demand and the supply of digital content has led to significant changes in the media ecosystem reaching production, distribution and reception [12][13]. For this reason, companies have been forced to change their strategies and deliver to consumers what they want, especially those that provide access to the Internet, the telecom operators.

The platform such as YouTube is a source of video content that is broad and diverse in both its subjects [14]. According to the Global Media Insight, YouTube has registered 1 million unique users in 2015, with the most representative age group of 35-44 years, with a weight of 26%. It presents as the 3rd most accessed website, right after Google and Facebook [15].

According to the president of the International Federation of the Phonographic Industry (IFPI), we are now facing an exciting era where the streaming is getting deeper and the richness of all types of music is now available to hundreds of millions of people, and artists interact more directly with the public rapidly increasing its audiences [15]. The most well-known platforms to offer music online are Spotify as the most popular that offers mainly free music online and Napster that provides a large music library that can be accessed by monthly subscription monthly [16]. Also, the Facebook has an important role in the dissemination of musical contents [17].

In a study, "Consumer Lab TV Media 2015" [18], it was estimated that, before 2015, people would spend 2.9 hours per week watching streaming TV shows, shows and movies; in 2015 this number doubles to 6 hours per week. And when new categories arise, they become main and conventional categories, such as eSports viewing time per week of 46 minutes. The same study indicates that the effect of Subscription Video on Demand (SVOD) is strong. But, while YouTube has a higher penetration rate and it is presented as a free service, Netflix stands out by being a paid service.

Regarding other contents, the most commonly used platforms daily to access images online are Facebook, Google and Instagram. To access news online, the Apple News allows user to access news from a variety of major outlets in one place. BuzzFeed is one of the most well-known digital-only media companies created for a millennial audience.

III. METHODOLOGY

This study is exploratory, and the methodology followed is quantitative. The data used in this study is from Flash Eurobarometer 437 “Internet users’ preferences for accessing content online” in the European Union countries [19]. The sample can be characterized as quasi-random and thus inferential tests can be performed, such as independent tests between two nominal (or treated as) variables. For the analyses of the data, the statistical software IBM SPSS Statistics is used.

In this study a sample of 1,991 internet users from the so called PIIGS countries (Portugal, Italy, Ireland, Greece and Spain) belonging to the generations X and Y (Millennials) was chosen to access the frequency of access of four types of online cultural content (music, films/TV series, images and press/news) and also to identify the type of service they tend to use (free and/or paid-for) when accessing online these cultural contents.

The survey questionnaire had a section to measure the answers related to the frequency of use of the Internet in an ordinal scale of five points (from never up to every day or so) and the type of access also in an ordinal scale with five points (from only use free services up to only use services where you have to pay). Moreover, and as usual, the questionnaire comprises a section where the respondents answer about their sociodemographic characteristics, namely, their age, gender, nationality, age education, occupation, household size, access to phone, and type of community.

After a descriptive analysis of all the variables selected in this study, a cluster analysis was applied using the four variables addressing the type of service used to access cultural contents as the classification variables. The clustering of the internet users followed two sequential stages: (1) hierarchical cluster analysis in order to identify the number of segments via dendrogram and agglomeration coefficient graphics, and (2) two-step clustering to segment the internet users in the number of clusters suggested by hierarchical analysis. However, the hierarchical analysis using different agglomeration criteria (e.g., within-groups linkage, between-groups linkage, furthest neighbor) and chi-squared measure did not allow to find the number of clusters to create as each dendrogram analysis results in a different number of clusters. Consequently, we run the two-step clustering using an automatic selection of number of clusters, the log-likelihood measure (i.e., considering categorical variables to be nominal) and the Bayesian Information Criterion (BIC). The procedure results identified a three clusters solution, being the average silhouette measure of cluster cohesion and separation of 0.4, meaning that the revealed structure is classified as fair [20].

Finally, the clusters’ characterization was crossed with other nominal variables to reveal the profile of these respondents, using contingency tables as well as association measures and performed hypothesis tests – chi-squared independence test to infer the magnitude of the differences in the population. The analyses are synthetized in Figure 1.

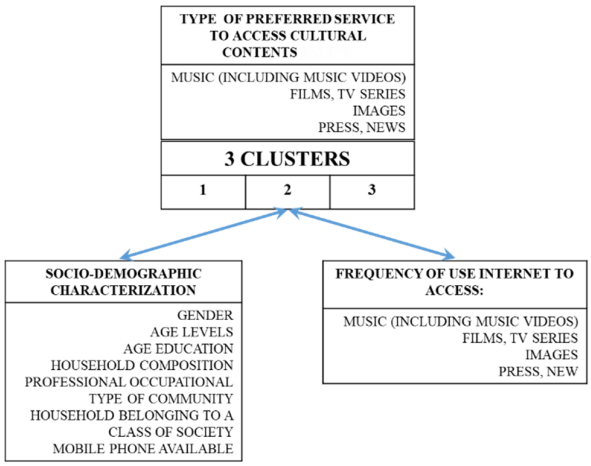

FIGURE I. EMPIRICAL MODEL

IV. RESULTS

The results are reported in a sequence that allows to answer the proposed research question. Prior to that, we begin with a brief characterization of the sample.

A. *Sample Characterization*

The respondents, i.e., the Internet users are characterized by being male (51.4%), millennials (62.6%), from the five countries (PIIGS), with weights ranging from 15.8% for Ireland to 21.7% for Portugal. They tend to have high education level as 58.2% finished education with 20 years or old, having a household with two or more individuals (77.7%), belonging to the middle class of society (46.9%) and are employees (52.6%) or without a professional activity (30.6%). Regarding the habitat 46.4% live in large towns and almost all the participants have mobile phone (99.6%).

B. *Consumption and frequency of the cultural contents*

All the respondents declare using the Internet to access various types of cultural content in digital format. Music (including music videos) and press/news are the contents accessed more often, 40.3% and 52.3% do every day, respectively. More than 60% access the four contents several times per week or every day. Films and TV series is the cultural content accessed less frequently (17% access once a month or less and just 25.5% do access every day (see Table II).

C. *Type of services used to access cultural contents*

For all four types of content, the access online is predominantly through free services. More than 70% of the respondents only use free services to access music online. Similarly, about 65% of the respondents use exclusively free services to access images and online news. Films or TV series online is the content with more percentage of the respondents that declare the use of paid services (5.8%), although the majority of them use exclusively or mainly free services (24.7% and 77.6%, respectively).

D. *Clustering the respondents*

The identification of different clusters according to the classification variables, the set of "when they access music, films, images and press and news online, they usually use ..." was done using the Two-Step Clustering approach. The dimensions of the clusters are 40.7% for group 1 (with 810 individuals), 31.1% for group 2 (with 619 individuals), and 28.2% for group 3 (with 562 individuals).

E. *Profiling the clusters according to the preferred type of services online*

From Table I, it is possible to notice that there are significant relationships between the three clusters and the four classification variables on the population and an intensity classified as medium or moderate relationships in the sample, ranging from values of the Cramer's V coefficients of 0.418 (to access news online) to 0.595 (to access music online).

TABLE I. DISTRIBUTION OF THE TYPE OF SERVICES USED TO ACCESS ONLINE CULTURAL CONTENTS BY CLUSTER

Type of preferred service to access …	**Cluster** 1 (n=810)	2 (n=619)	3 (n=562)	**Total**
Music online	$\chi2(8)=1072.845$; p<0.001; Cramer' V=0.519			
Only use free services	29.9%	100.0%	95.6%	70.2%
Mainly use free services	30.4%		4.4%	13.6%
Use free service and paid services	23.5%			9.5%
Mainly use paid services	9.6%			3.9%
Only use paid services	6.7%			2.7%
Films or TV series online	$\chi2(8)=1407.742$; p<0.001; Cramer' V=0.595			
Only use free services	24.7%	100.0%	42.2%	53.0%
Mainly use free services	21.0%		56.8%	24.6%
Use free service and paid services	31.2%		1.1%	13.0%
Mainly use paid services	14.3%			5.8%
Only use paid services	8.8%			3.6%
Images online	$\chi2(8)=767.675$; p<0.001; Cramer' V=0.439			
Only use free services	48.3%	100.0%	50.4%	64.9%
Mainly use free services	26.2%		49.6%	24.7%
Use free service and paid services	14.6%			5.9%
Mainly use paid services	5.1%			2.1%
Only use paid services	5.9%			2.4%
Read news online	$\chi2(8)=696.820$; p<0.001; Cramer' V=0.418			
Only use free services	46.3%	100.0%	54.3%	65.2%
Mainly use free services	30.9%		45.7%	25.5%
Use free service and paid services	14.2%			5.8%
Mainly use paid services	4.7%			1.9%
Only use paid services	4.0%			1.6%

n = 1991

It is possible to conclude that:

- The individuals from cluster 2 only use free services to access all the contents online;
- From the total respondents that access music online

using only free services, they would belong to cluster 2 followed by cluster 3;

- From the total respondents that access films online every day or so, they would belong to cluster 2; but, for those that access it several times per week, they would belong to cluster 3; From the total respondents that access images and news online every day or so, they would belong to cluster 2;
- Cluster 1, the most populous one, is the only one where all the categories are filled out, being the most important category only use free services to access films, images and read news online; the exception goes for those that access music by using mainly use free services (30.4%).

F. Profiling the clusters according to the frequency of use of cultural contents online

The frequency of using the Internet to access music, films, images and news and the variable clusters also show significant relationships between these variables; but, the intensity of these relationships in the samples are weaker (Table II).

TABLE II. DISTRIBUTION OF THE FREQUENCY OF ONLINE CONSUMPTION OF CULTURAL CONTENTS BY CLUSTER

	Cluster			
Frequency of use the Internet to access ...	1 (n=810)	2 (n=619)	3 (n=562)	**Total**
Music (including music videos)	$\chi^2(6)=20.297$; p=0.002; Cramer' V=0.072			
Every day or so	45.5%	37.5%	36.1%	40.3%
Several times per week	30.9%	31.6%	32.5%	31.6%
Several times per month	16.2%	19.9%	20.2%	18.5%
Once a month or less	7.4%	11.1%	11.3%	9.6%
Films, TV series	$\chi^2(6)=90.654$; p<0.001; Cramer' V=0.152			
Every day or so	31.6%	21.4%	21.3%	25.5%
Several times per week	40.5%	29.5%	31.2%	34.5%
Several times per month	18.3%	26.4%	26.3%	23.1%
Once a month or less	9.7%	22.7%	21.3%	17.0%
Images (e.g. photos, drawings)	$\chi^2(6)=19.160$; p=0.004; Cramer' V=0.070			
Every day or so	38.6%	33.4%	34.2%	35.7%
Several times per week	34.5%	30.8%	31.1%	32.4%
Several times per month	18.7%	21.7%	21.3%	20.4%
Once a month or less	8.3%	14.0%	13.4%	11.5%
Press, news	$\chi^2(6)=10.470$; p=0.106; Cramer' V=0.052			
Every day or so	52.6%	52.7%	51.4%	52.3%
Several times per week	30.2%	25.8%	27.9%	28.2%
Several times per month	12.0%	13.1%	11.9%	12.3%
Once a month or less	5.3%	8.5%	8.8%	7.3%

n = 1991

According to Table II, the individuals that belong to these three clusters access the Internet every day or so to consume music, images, and news online or several times per week to access films online. That is, these 1991 individuals are heavy consumers of Internet to access cultural contents. Some specificities are revealed:

- From the respondents that access music every day or so, the probability of belonging to cluster 1 is higher; for the other categories, they would belong to clusters 2 and 3;
- From the total users that access films and images online every day or so or several times per week, most of them would belong to cluster 1; for the users that access it with a lower intensity, most of them would belong to clusters 2 and 3;
- From the total users that access news online every day or so, the majority of them would belong to all clusters; but, if they access it several times per week, they would belong to cluster 1; in contrast, if they have a low frequency of accessing news online, most of them would belong to cluster 2 or/and cluster 3.

G. Characterization of the profile of the socio-demographics characteristics of individuals by cluster

Regarding the relationships between the clusters and socio-demographics variables, let us observe Tables III. It can be said the following:

- The only relationships that are significant at 10% in the population are age education, and household composition; There are relationships that are not significant at all: the relation between clusters and type of community (p-value=0.161), household belonging to a certain social class (p-value =0.373), and mobile phone availability (p-value= 0.373; The other socio-demographic variables are significantly related to the three clusters: gender, generation, country, and professional occupation;
- In the sample, only the Cramer's V between clusters and countries that belong to the PIIGS group is higher than in the other cases (0.241), followed by gender (0.122), in spite of being in both cases a weak relationship;
- From the respondents that are male, the propensity to belong to cluster 1 is higher than in the other clusters, n cluster 1, male respondents are the majority (57.5%), while in cluster 2, the majority of them are female; and in cluster 3 there is a split between male and female respondents; and the male respondents are the majority;
- From the total respondents that are Millennials, the propensity of belonging to clusters 1 and 2 is higher; but the Millennials are almost twice as much the other generation;
- From the total respondents of Italy and Ireland, most of them would belong to cluster 1; if they are from Greece or Portugal, the propensity of belonging to clusters 2 and 3 is higher; but if they are residents of Spain, the propensity of belonging to clusters 1 and 3 is higher;
- From the respondents that quit studying at the age up to 15 years old, the probability of belonging to clusters 2 or 3 is higher; from those respondents that quitted or interrupted education at the ages 16-19 years old, most of them would be allocated in cluster; if they are 20 years old or more, the probability of belonging to cluster 1 is higher; if they did not follow any education (a minority of them), the probability of belonging to cluster 1 is

higher; the most important category is to quitted or interrupted studies at the age of 20 years or older;

- From the total respondents that live alone, the probability of belonging to clusters 2 and 3 is higher; If the household have two elements, the probability of belonging to cluster 3 is higher; if they have three elements in their household, the probability of belonging to cluster 2 is higher but if they have four or more elements, the probability of belonging to cluster 1 is higher; and the most representative size of the household is to belong to a household with four or more elements.

- From the total respondents that are self-employed, the propensity of belonging to cluster 1 is higher; but, if they are employees or manual workers, the propensity of belonging to cluster 1 is higher than those that do not have any professional activity that would belong to cluster 2 or 3, being the most representative occupation o be employee.

TABLE IIII. DISTRIBUTION OF THE SOCIODEMOGRAPHICS CHARACTERISTICS BY CLUSTER

	Cluster			Total
	1	2	3	
Socio-demographics	(n=810)	(n=619)	(n=562)	
Gender	**$\chi^2(2)=24.126$; p<0.001; Cramer' V=0.110**			
Male	57.5%	44.6%	50.0%	51.4%
Female	42.5%	55.4%	50.0%	48.6%
Generation	**$\chi^2(2)=10.149$; p<0.006; Cramer's V=0.071**			
Millennials	65.9%	62.8%	57.5%	62.6%
Gen X	34.1%	37.2%	42.5%	37.4%
Country	**$\chi^2(8)=231.07$; p<0.001; Cramer's V=0.241**			
IT - Italy	23.3%	17.9%	18.9%	20.4%
IE - Ireland	26.9%	7.6%	8.7%	15.8%
GR - Greece	14.3%	27.5%	23.1%	20.9%
SP - Spain	23.3%	14.7%	25.4%	21.2%
PT - Portugal	12.1%	32.3%	23.8%	21.7%
Age education	**$\chi^2(8)=14.236$; p=0.076; Cramer's V=0.061**			
Up to 15	0.5%	1.5%	1.7%	1.1%
16-19	21.7%	23.0%	25.5%	23.2%
20 years and older	61.4%	57.1%	55.0%	58.2%
Still studying (full-time education)	15.8%	18.4%	17.5%	17.1%
Did not follow any education	0.6%	0.0%	0.4%	0.4%
Household composition: size	**$\chi^2(6)=11.633$; p=0.071; Cramer' V=0.054**			
One	19,9%	24,6%	23,3%	22,3%
Two	19,5%	19,5%	21,9%	20,2%
Three	20,4%	22,8%	20,5%	21,2%
Four or more	40,2%	33,1%	34,3%	36,3%
Occupation	**$\chi^2(6)=16.588$; p=0.011; Cramer V=0.065**			
Self-employed	14.7%	13.4%	12.5%	13.7%
Employees	55.7%	48.9%	52.2%	52.6%
Manual workers	3.5%	2.3%	3.4%	3.1%
Without a professional activity	26.1%	35.4%	31.9%	30.6%
Type of community	**$\chi^2(4)=6.565$; p=0.161; Cramer V=0.041**			
Rural area or village	14.8%	15.5%	13.5%	14.7%
Small or middle-sized town	36.1%	41.5%	40.1%	38.9%
Large town	49.1%	43.0%	46.3%	46.4%
Household belonging to ...	**$\chi^2(6)=8.647$; p=0.373; Cramer V=0.047**			
The working class of society	20.6%	22.5%	23.5%	22.0%
The lower middle class of society	23.4%	24.8%	25.0%	24.3%
The middle class of society	47.6%	46.6%	46.3%	46.9%
The upper middle class of society	7.3%	5.9%	4.8%	6.2%
The higher class of society	1.0%	0.3%	0.4%	0.6%
Mobile phone available	**$\chi^2(2)=1.309$; p=0.520; Cramer V=0.026**			
Yes	99.5%	99.8%	99.5%	99.6%
No	0.5%	0.2%	0.5%	0.4%

n = 1991

V. CONCLUSION

This study reveals important conclusions regarding the use of Internet to consume cultural contents by Gen X and Millennials in five specific countries (the PIIGS). In fact, the results allow to conclude that the choices of how to access music, films / TV series, images and news are not homogeneous among the PIIGS consumers. Moreover, the sociodemographic characteristics of the Internet users influence the choices, being possible to identify three consumer profiles:

- Profile 1 (cluster 1): The most populous cluster that accesses music by using mainly free services (39.4%); films by using free services and services they have to pay (31.2%); images by using only free services (48.3%); and news by using only free services (46.3%). Concerning the socio-demographics variables, this cluster can be characterized by having a majority of male respondents (57.5%), 65.9% of them are Millennials from Ireland, Italy and Spain (26.9%, 23.3% and 23.3%, respectively); and, in their household, they are four or more elements (40.2%);
- Profile 2 (cluster 2): The second most populous cluster is composed by respondents that they all access music, film, images, and news online by using only free services (100%); the majority of them are female (55.4%) from Portugal and Greece (32.3% and 27.5%, respectively) and with one or three elements in their households;
- Profile 3 (cluster 3): It is formed by individuals that 95.6% of them only use free services to access music; 56.8% of them mainly use free services and 42.2% only use free services to access films; and, only use free services or mainly use free services to access images and news; half of this cluster is composed by male respondents; the individuals tend to come from Spain, Portugal and Greece (25.4%, 23.8%, and 23.1%,

respectively); and, the number of elements of their household is four or more (34.3%).

It is also clear that the frequency to access cultural contents is higher when consumers do not have to pay for the service in any type of cultural content.

Another conclusion that can be made is that the Internet users of these two generations do not act similarly when making decisions as consumers. Individuals from the Millennials tend to belong to clusters 1 and 2 and individuals from those that belong to Gen X tend to be in cluster 3. This conclusion impacts on how producers and distributors of cultural contents online should approach the markets of these five countries and each of the consumer segments identified in this study. For instance, in Portugal or Greece, the penetration of paid services will take longer than in countries like Ireland, since in the former countries the propensity to join paid services is lower. On the other hand, this evidence can help these companies to adjust their marketing strategies, both at the level of service offered and at the level of communication in order to convert users that consume just free services to users that could consume free and paid services.in Portugal or Greece.

Additionally, companies are aware that they should conduct campaigns to sell services to larger households with more educated elements and to male individuals, since these characteristics are more associated with clients with a tendency to join paid services. On the other hand, knowledge of the socio-demographic characteristics most associated with consumers of free content allows companies that support free access to the advertising service to incorporate the product / service announcements of companies that have these users as their target. However, companies must be aware that the willingness to pay for cultural contents is influenced by the consumer's service experience (e.g., great cultural content; flexibility; and a high-quality content and service).

In a consumer perspective, with the increase of new services such as Netflix, TV+ (from Apple), HBO, it is expected that the access to cultural contents online, even for paid services that are going down due to the competition, is increasing, mainly in clusters two and three. Although, a future research is needed to confirm this expectation.

This study contributes to the research and literature on the consumption of cultural contents online. The cultural deficit of populations and the lack of access to culture in various population extracts can be mitigated through the use of the Internet. Thus, governments can think about funding free access to cultural content on the Internet as a way of promoting culture. For example, if live opera or classical music concerts have few spectators and / or do not reach all cities in the countries, why not provide such spectacles through the Internet, creating a potential interest in this type of cultural activity?

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