STATISTICAL RESEARCHES REGARDING THE CONSUMER OF ANIME CULTURE PRODUCTS IN ROMANIA

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Abstract: Anime culture, a culture that revolves around the Japanese animation, called anime, has produced important cultural and economic effects worldwide, motivating the interest of researchers from several fields of activity. This article analyzes the presence of anime culture in Romania in relation to its global presence, the market of anime products through the perception of the Romanian consumer on this phenomenon. The method used is a statistical one, the Chi-square test. The conclusions of this study are to confirm and complet the results obtained in the author's previous researches.

Keywords: anime, culture, e- marketing, statistics, Chi-square

Introduction

Anime is the generic name of Japanese animation. This style of animation is characterized by unique artistic features and the approach to complex and novel themes. Created in the second half of the 20th century by it's parent, Osamu Tesuka, it quickly gained popularity in Japan, emerged from its borders. In the 1970s, US television and film companies noticed the potential of this kind of animation and began broadcasting through subtitling and dubbing.

Anime was quickly loved by the American public due to the combination of thematic elements of universal Western culture and an exotic element of Japanese origin and because of the uniqueness of the artistic style.

In the '80s, the anime had already gained great popularity in the United States, with the emergence of companies specializing in subtitling and doubling of anime, such as Carl Macek's Harmony Gold, which brought the anime series, such as Robotech, to American audiences.

In the '90s, after the fall of the Iron Curtain, access to information from Eastern European countries, including Romania, became easier to achieve. Romanian televisions started broadcasting movies and anime series dubbed or subtitled in English, due to the fact that among the first contacts Romania has made was with America.

The Romanian television therefore begins broadcasting anime movies such as *Windaria* and *Pheonix Fire Bird* and anime series such as *Saber Rider*, *Macron 1*, *Candy Candy*, *Sandy Bell, Sailor Moon* and many more, animes that were already being broadcasted and enjoyed in the United States. The example of Romanian television (TVR) was followed by the other televisions that appeared later, so international successful series such as *Pokemon* and *Dragon Ball* were dubbed by Romanian actors. Anime series such as *Inuyasha*, *Yu-Gi-Oh*, *Full Metal Alchemist*, *Full Metal Jacket*, *Evangelion*, *Tokyo Mew Mew* were also broadcast during the same period,in the '90s.

The first official generation of anime fans in Romania was formed in the '90s, but there were fans before '89 ("*Modeling the identity of the anime culture fan*"),

As a result, in the 2000s, Romania's television channel **A+**, exclusively dedicated to anime, was replaced in Romania by **Animax**.

In the mid-2000s, anime's influence was felt globally, both in terms of culture and economics.

In the field of cinema, blockbusters such as *Spirited Away* (2001) and *Your Name* (2016), enjoy world success. Hollywood studios start producing anime-inspired movies. An eloquent example of this is the *Matrix* international trilogy, inspired by the animes *Ghost in the Shell*, *Megazone 23*, *Dragon Ball*, and more.

Anime has also felt its presence in video games. The first expansion of internationaly successful game *World of Warcraft, Burning Crusade* includes many elements of anime style and enjoyed, and enjoyed, even greater popularity than the first version. The series of video games that inspired the *Pokemon* anime series continues today, and games such as the *Touhou* series and interactive visual-novels books have a well-defined group of fans.

On the music scene, the international successful band **t.A.T.u** included anime elements in their own style and even started a project to create an anime movie titled Paragate with the two singers as protagonists.

Theater and fashion have also received anime influences, a recent example in this sense is the play called "*Cosplayers*".

And not last, we mention the existence of anime influence in the western animation style, the result of these influences being noted in animated films such as *Avatar: The Last Airbender*.

Notable in this context is the fact that a study (JETRO 2006) showed that almost the entire world animation is made by Japanese animators.

Due to the popularity and the international spread of this kind of animation, there have also been cultural effects, which has led to the emergence of "*anime culture*". People who adopt this culture are "*anime fans*" sometimes called "*otaku*", and manifest their cultural affiliation in many ways.

The first way of manifestation is the purchase and collection of anime products, such as: "*manga comics*", figurines, posters, video games, game cards and more.

It is worth mentioning that the market of these products is always refreshed on the occasion of the new anime appearance. Manga comics are often the main source of adaptation for the new anime series. These can be purchased both in specialized shops and in bookstores.

Another way of manifestation of belonging to the anime culture is the meeting of anime fans in the anime themed conventions.Another way of showing an anime culture is to meet fans in anime-themed conventions. At these conventions participate exhibitors of anime products and visitors, and various cultural activities are taking place.

A first important cultural activity is "*cosplay*", which is the anime fans' activity to dress up like their favorite characters and to interpret them. Within these conventions and in the online environment, there are numerous cosplay contests. Costumes for cosplay are purchased from specialized stores. They are also sometimes made of separate parts that require specific accessories.

"*Doujinshi*" is another anime-specific activity, consisting of making and selling by anime fans and fan circles, of manga, video games, and so forth, as an adaptation of the official products.

Along with them, we mention the "*fansubbing*" groups, made up of those fans who translate anime series from English and even Japanese, in their native language.
Fansubbing is also an important way of spreading the anime culture. Recently, online television and television services such as **netflix**, which, in addition to films, also transmit anime.

Starting with 2007, in Romania, began to take place annual conventions with thematic or anime-specific sections, including such as: **Nijikon, Otaku-Fest, Comic-Con, Asia-Fest**, and more. At present, in Romania, manga volumes and other anime products can be purchased either from bookstores, such as **Cărtureşti** and **Antic-Ex Libris**, as well as from online stores such as **Mangashop.ro**.

The main sources of information for anime fans in Romania are in the online environment, in the form of websites such as **myanimelist.net**, but especially in **Facebook** chat groups.

The members of these groups popularize the latest anime appearances, along with the latest news from the anime industry. They make comments and reviews on some productions, quickly inform new members about anime culture, sell and buy anime products, and recommend to those interested anime-specific stores.

The largest such group in our country is **Anime Romania**, counting over 20000 members, followed by **Anime is My World and Your World**. It is noteworthy that sometimes the information starts from a *meme* that hits the curiosity of the group(**surprises them**) and causes its members to watch the anime referenced, and then to express an opinion on it.

In these discussion groups and more, I conducted two surveys, the first having 422 respondents, the second having 268 respondents. The surveys had as theme the realization of an overall picture of the anime culture presence in Romania and also about the derivatives market. The data processed after these surveys led to similar conclusions, which confirmed the hypotheses formulated, the most being the $\mathbf{H_1}$ hypothese(along with other ones) : *the most important segment of audience are the young who are positively surprised by anime and consequently educated by*. The results of these researches were published in magazines indexed in international databases or presented in international conferences.

Therefore, *the familiarity* with the anime notion among media entertainment consumers occurs in the proportion of **82,45%**, in the first survey, respectively **97%**, in the second. The adjective "*wonderful*", attributed to anime, is recurrent in the respondents' opinion in both surveys, demonstrating a favorable attitude towards this genre of animation, especially for the female segment. ***The attitude*** is complemented by the importance of *subtitling*, for which **97,8%** of the respondents opted in the first survey. The identification of ***the preference*** for anime products obtained in the investigations led to an average of **70%** affirmative answers, respectively **76,3%** in the first survey and **63,1%** in the second. ***The motivation*** to purchase such products leads to **75%** for *personal use* as the primary reason, in the first study, and **62,6%** in the second.
A prognosis of the future trend, based on the research results, if we consider the percentage of those who buy anime products, regardless of motivation, and evaluating the scores recorded in the two surveys, taking account of the active group members, leads to the following statistics:

Table 1. Buyers statistics

	Total	Buyers percentage in total respondents	NUMBER
SURVEY_1	**267**	**63,1%**	**175**
SURVEY_2	**410**	**76,3%**	**321**

TOTAL ACTIVES ON GROUPS	**900**	**69,7 ≈ 70%**	**630**

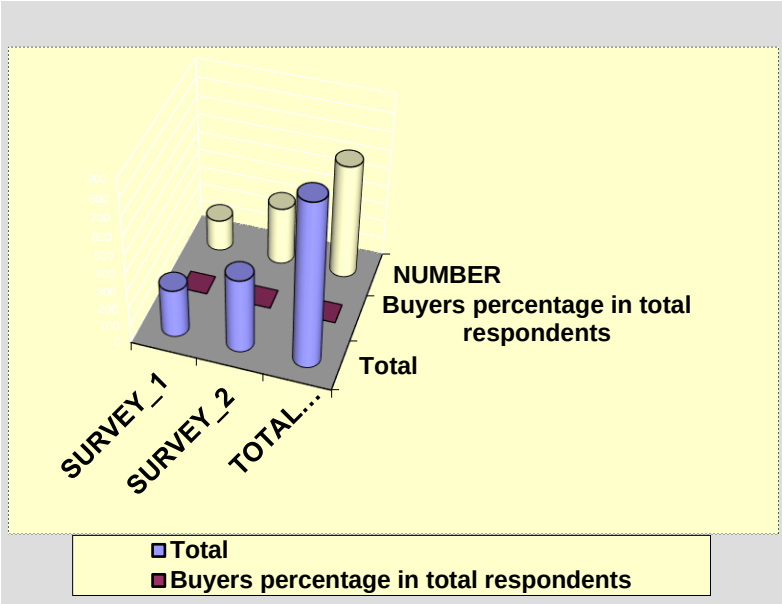

Figure 1 Comparative statistics of buyers number in the two author's surveys

The people who are permanently present in the entertainment discussion groups make a trend for potential buyers of the anime products, so we could consider the following **trend** (we have applied the function using the EXCEL program)

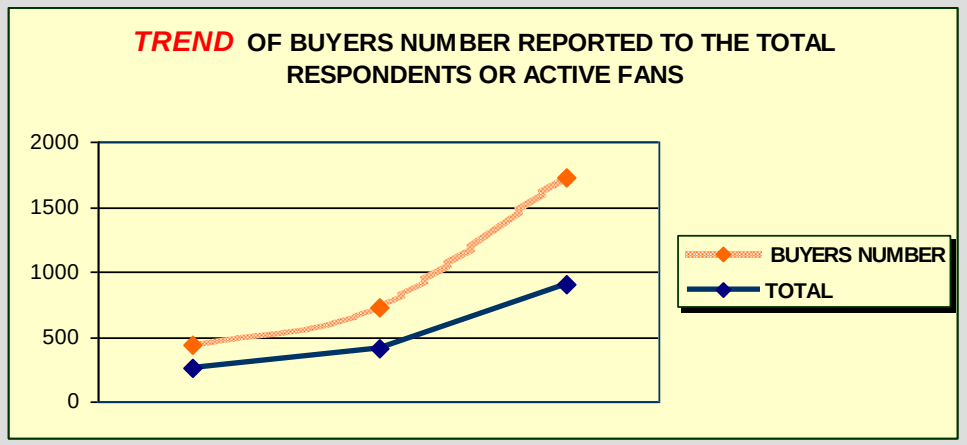

Figure 2 Evolution of buyers number compared with the total active fans number evolution

In order to refine the study of perception upon the anime culture in Romania, we used the data processed in the second survey, in an article presented at IBIMA, November, 2018 International Conference, in which we have formulated the same hypothese and more, referring

to the adjectives attributed by fans to this type of culture(H_1 hypothese): the young people, which represents the majority of the Romanian anime fans, are pleasantly surprised by this new form of art, appreciating it also from an educational point of view; the adult male segment would purchase, eventually, these products for their artistic superiority, the non-buyers adult males could buy the anime products because of the surprising and dramatic anime features interaction, and the female audience consider them as quite wonderful.

In order to complete these conclusions, we will further analyze a set of interactions between the attributed adjectives, based on an item belonging to the second survey, using a new statistical approach, that is the Chi-Square-Test.

Chi-Square analysis of anime culture perception (with refference to IBIMA article)

Asked about the opinion about the anime culture, the 268 respondents at the survey have answered differently, their responses being the **observed** values of the attributed adjectives for this type of art.
The steps we will follow are:

- **a)** Stating the hypothesis: there is an association between age or gender and proportion of the anime culture perception=H_1
  H_0= there is no such of association
- **b)** Calculating the **expected** values
- **c)** Using the **observe**d and **expected** values to calculate the Chi-Square test statistic values
- **d)** Establishing the significance level (usually the probability is p=95% , with an accepted e = 0,05 but we also can use a higher probability) and the number of degrees of freedom
- **e)** Comparing the Chi-Square statistic with the critical value from the table(fig.1)
- **f)** Making the final conclusion about our hypothesis

Table 2. SEGMENT OF YOUNG PEOPLE

VALORI	OBSERVED	EXPECTED	OBSERVED	EXPECTED		PERCENTAGE
	NON EDU	NON EDU*(%)	EDU	EDU * (%)	TOTAL	%
NON SURPRISING	27	16,54054054	9	19,45945946	36	0,324324324
SURPRISING	24	34,45945946	51	40,54054054	75	0,675675676
TOTAL	51		60		111	1

We do the next remarks:
1) Table's values must be greater or equal with 1 and only 1/5 of the value can be less than 5
2) We use some abbreviations of the attributed adjectives like it follows:

- **EDU= the adjective „educational"**
- **DRAM= the adjective „dramatic"**
- **SUP=the adjective „superior"**
- **MARV= the adjective „marvelous"**

CHI SQUARE TEST FOR THE YOUNG = 18,10932353>10,83(TABELAT)

=POWER(B2-C2;2)/C2+POWER(B3-C3;2)/C3+POWER(D2-E2;2)/E2+POWER(D3-E3;2)/E3 =

Degrees of freedom: df= (nr. coloane-1)*(nr. linii-1)=(2-1)*(2-1)=1
=> Chi-Square statistic value =10,83 (e<=0,001(99,9% confidence)

Table 3. SEGMENT OF MALE NON-BUYERS

VALUES	OBSERVED NON DRAMATIC	EXPECTED NON DRAM*(%)	OBSERVED DRAMATIC	EXPECTED DRAM*(%)	TOTAL	PERCENTAGE %
NON SURPRISING	29	20,95945946	4	12,04054054	33	0,445945946
SURPRISING	18	26,04054054	23	14,95945946	41	0,554054054
TOTAL	47		27		74	1

CHI-SQUARE TEST for the male non-buyers segment=15,25830292 >10,83(tabelat)

Table 4. SEGMENT OF FEMALE RESPONDENTS

VALUES	OBSERVED NON MARVELOUS	EXPECTED NON MARV*(%)	OBSERVED MARVELOUS	EXPECTED MARV*(%)	TOTAL	PERCENTAGE %
NON ARTISTIC	11	8,094339623	22	24,90566038	33	0,622641509
ARTISTIC	2	4,905660377	18	15,09433962	20	0,377358491
TOTAL	13		40		53	1

CHI-SQUARE for the female segment =3,662435897 close to 3,78

Table 5. SEGMENT OF MALE BUYERS

VALUES	OBSERVED NON SUPERIOR	EXPECTED NON SUP*(%)	OBSERVED SUPERIOR	EXPECTED SUPERIOR*(%)	TOTAL	PERCENTAGE %
NON ARTISTIC	25	20,4	9	13,6	34	0,30909
ARTISTIC	41	45,6	35	30,4	76	0,69091
TOTAL	66		44		110	1

CHI-SQUARE for the male buyers segment =3,753224974 close to 3,78

Conclusions

We proved our main hypothesis (***H₁***): the **young** segment of fans from Romania, are pleasantly **surprised** by this new form of art, which it also appreciates from the **educational** point of view.

Also, it concludes that the **male** non-buyers fans can become buyers, convinced by the interaction between the **surprising** and **dramatic** anime features, and the adult male segment of buyers, on the other hand, purchase these products because of their **artistic superiority**.

Another conclusin is: the female audience considers the anime products as being **wonderful**, and therefore also appreciate them from an **artistic** point of view.

All these results verify the conclusions from the IBIMA article and the precedent researches of the author: the anime culture perception is different for the young and the adult, and also for the males and the females(H_1); we reject the H_0(the perception is the same for young or adult people, and for males or females)

Degrees of Freedom	Probability										
	0.95	0.90	0.80	0.70	0.50	0.30	0.20	0.10	0.05	0.01	0.001
1	0.004	0.02	0.06	0.15	0.46	1.07	1.64	2.71	3.84	6.64	10.83
2	0.10	0.21	0.45	0.71	1.39	2.41	3.22	4.60	5.99	9.21	13.82
3	0.35	0.58	1.01	1.42	2.37	3.66	4.64	6.25	7.82	11.34	16.27
4	0.71	1.06	1.65	2.20	3.36	4.88	5.99	7.78	9.49	13.28	18.47
5	1.14	1.61	2.34	3.00	4.35	6.06	7.29	9.24	11.07	15.09	20.52
6	1.63	2.20	3.07	3.83	5.35	7.23	8.56	10.64	12.59	16.81	22.46
7	2.17	2.83	3.82	4.67	6.35	8.38	9.80	12.02	14.07	18.48	24.32
8	2.73	3.49	4.59	5.53	7.34	9.52	11.03	13.36	15.51	20.09	26.12
9	3.32	4.17	5.38	6.39	8.34	10.66	12.24	14.68	16.92	21.67	27.88
10	3.94	4.86	6.18	7.27	9.34	11.78	13.44	15.99	18.31	23.21	29.59
	Nonsignificant								Significant		

Figure 3. Table of critical values

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