THE IMPORTANCE OF COMMUNICATION IN THE ANIME CULTURE'S E-MARKETING. CASE STUDY

Cazacu Adrian Nicolae PhD. Student, The Bucharest University of Economic Studies

Abstract:The purpose of the research is to study the link between the communication signal through the online socializing environment and the effect on the dynamics of the anime product emarketing, as well as the influence of the cosplay manifestations on the decisional behavior of the fan of this type of culture. The data used is based on an online survey conducted with the occasion of the Comic con event held in Romania this year, addressed to the Facebook chat groups, with anime and cosplay themes. The study has two directions of interest: the influence of the signal, through the participation at this event, both on the emarketing of cosplay related products and on the dynamics of the anime derived products emarketing.

The tools used in the research belong to the informational statistics and make a connection between the media communication and the information theory.

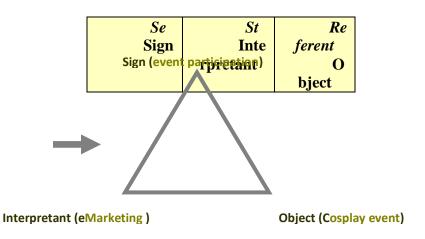
Keywords: anime, cosplay, market, media communication, information theory

1. Introduction

"A sign is a materiality we perceive with the help of one or more senses that we have. He can be seen, heard, smelled, touched or even tasted. However, a sign is something that holds something else for someone, under some kind of report or title" (Charles Sanders Pierce)

This definition has the merit of showing that a sign maintains a solidarity relationship between three poles: the perceptible face of the sign (*signified-St*), which represents (*the object or the referent*) and what it signifies (*interpretant or signified-Se*).

This triangular presentation represents the dynamics of any sign as a semiotic process, whose significance depends on the context of the occurrence and the expectation of the receiver:



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The term of *media* identifies the communication meaning, based on technology, that makes a link between the communicator (transmitter) and the receiver (receiver).

After its localization in the USA, during the 70's, the Japanese animation, called "anime", gained a wide popularity in America and then, gradually, during the 80's, 90's and 2000's, its popularity spread in Europe and in many other countries which began trading relations with USA, in the context of globalization. The localization was not the only mean by which "anime" started to gain a world wide audience. Many fan groups started doing their own localization of anime, directly from Japan and share them by means of Internet. This was the start of a cultural phenomenon revolving around anime. An important part of this growing culture is "cosplay". Cosplay represents the cultural manifestation of anime fans to dress up as their favorite anime characters, and interpret them. This hobby requires the purchase of special costumes tailored like the outfits worn by the anime characters. As a lot of anime are produced every year, the cosplay industry must keep up with the market demand.

2. The importance of the message as source of information. Signals from cosplayers and facebook ads(announcements)

The presence of anime culture in Romania was encouraged by social networking site, namely the *facebook.com*.

Within the social network offered by this site, there are discussion groups, virtual communities, even virtual stores, as well as pages for presenting different events. Their members post information about the anime or anime related events, including cosplay. This way, the groups can be compared with real newsletters on the subject of the group, in this case the cosplay events, giving each member the opportunity to be up to date with the latest news.

In Romania exist dozens of such groups, the largest being Anime Romania, media discussion groups, including anime and cosplay, among other topics of discussion. It's well to know that many of the members of these groups are part of the international groups, speaking english groups, having an anime themes and including millions of members.

Today, we accept the source of information as the mechanism by which a message is sent from the set of messages to the recipient, a mechanism that we can fit into an experiment S, whose results highlight the independent elementary events s_i , i=1...n, with the probabilities $p(s_k)$, k=1...n, considered **complete** if: $\bigcup s_k$, k=1...n=E, where E is the **certain** event.

If, for example, s_i are messages from the cosplayer groups, considered as a discrete source of information (the number of messages is *finit*), these events are disjointed.

As a result, $p(\cup s_k, k=1...p)=p(E)=1$, so the source of information is also *complete* and *without memory*, because the delivery of a message does not depend on the previously provided messages. The experiment S, respectively the answers resulting from the application of the online survey can be characterized, in a first perspective, by means of a distribution:

$$S: \begin{pmatrix} s_1 & \dots & s_k & \dots & s_p \\ p(s_1) & \dots & p(s_k) & \dots & p(s_p) \end{pmatrix}$$

Since the degree of undetermination is dependent on its probability, $i(s_k)$, as a function of the message sending probability, $i(s_k)=F(p(s_k))$, higher the probability of providing the s_k message is, equally smaller is indetermination upon the message, and therefore the information attached to this message.

The information source being presumed without memory, it results that the messages are

independent and the information obtained at their delivery will be equal to the sum of the attached information. Consequently: $F(\curvearrowright p(s_k)) = \Sigma(F(p(s_k))) |_{k=1...p}$ the only solution being a logarithmic function. Taking into account that the information unit is considered when a discreet, complete, and non-memory source provides two responsive messages, the logarithm will be used in the *base two*, and the *bit of information* will be determined accordingly:

$$F(p(s_k))=Clog_2(p(s_k)), i(s_k)=Clog_2(1/2)=-C=1=>C=-1.$$

From the physical point of view, the *entropy* defined with the next relation measures the average information on the message, respectively the mean source's indetermination:

$$H(S)=\Sigma(p(s_k) i(s_k))=-\Sigma(p(s_k)log_2(p(s_k)),_{k=1...p.}$$

In order to measure the influences between the interacting entities, the information theory uses **two instruments:** the informational entropy and the informational Onicescu energy, the last being the sum of the squared probabilities.

3. Transforming the survey data into information. Interactions identification

In this study, the data comes from a survey(Cazacu, 2018b), and the answers are the alternatives to each question. The method of data analyse, named "the 2^3 - experiment", places all the numerical data inside a matrix with three entries, corresponding to the three factors involved, each of them having two levels. The online study refers to the participation in the recent Comic con 2018 event, as well as aspects of the anime culture market, also the purchase of cosplay suits or anime and manga derivatives For this purpose, we have selected the corresponding dichotomous questions:

- 1. Have you been informed about the Comic Con show through facebook? Yes /No
- 2. Did you know about this event from the cosplayers of anime characters? Yes/ No
- 3. Have you participated at Comic con 2018? Yes/ No
- 4. Have you bought cosplay costumes inspired from anime in order to participate at Comic con 2018? Yes / No
- 5. Have you bought anime and manga products as a result of participating to this event? Yes/No

			Y= ANIME PRODUCTS (B)					
	X= Cosplay messages (C)	Z= Comic con 2018 participants (A)	Cospl ay costu mes (B ₀)	Ani me and manga pro ducts (B ₁	T OTAL			
	Cosplaye rs messages (C ₀)	visitors (A ₀)	8	7	5			
		buyers (A ₁)	22	23	5			
	Cosplayer	s messages total - c ₀	30	30	0			
	Other facebook	visitors (A ₀)	8	8	6			

	$\begin{array}{c} \text{announce} \\ \text{ments} \\ (C_1) \end{array}$	buyers (A ₁)	27	27	5
		ook announcements I - C ₁	35	35	0
1 TOTAL=1.		TOTAL=130	65	65	30

Table 1. Data resulting from the author's investigation

In the following calculations, we shall denote(Cazacu, 2018a):

- **a.** the absolute frequencies on columns with y_{ij} , and their totals on the columns with $Y_1, Y_2, ...$
 - **b.** the absolute frequencies on lines as x_{ij} , and the line totals with X_1 , X_2 , ...
 - c. the absolute frequencies with z_{ij} , and the totals with Z_1 , Z_2 , ...

The independent variables A, A, with the alternatives A_i (Z variable) placed on the rows, represents the Cosplay respondent's preference, materialized in the purchase or the participation to the Comic con manifestation. The second independent factor is the way the respondent learned of this manifestation, represented by the C factor(X variable), with the alternatives C_k , also placed on the rows, divides the set of responses as follows: cosplay messages or other facebook ads.

The dependent factor are the anime products, divided into two categories: the cosplay costumes and the anime and manga derivative products, that is the B factor, with the alternatives B_i , placed in the columns (Y variable).

The triple input statistical construction consists of all variants for the A, B, C variables (Table 1). For more understanding of the relationships (interactions between variables), the experiment is repeated.

	ATA 1	REPE TITION 2	UM	infl uence
1	4	4		130
PARTICIPA NTS	1 1	11	2	68
ANIME PRODUCTS	4	3		0
INFORMATI ON	4	4		10
AB	1 1	12	3	2
AC	4	13	7	8
BC	4	4		0

ABC	1			
	3	14	7	-2
T. rep	6			C=
	5	65	30	1056,25

a)

COSPLAY PA	COSPLAY PARTICIPANTS									
BASIS		C osplay c ostumes	Anime and manga products	T OTAL						
Cosplayers	vi	1	b							
messages	sit	a	ab							
Other		c	bc							
facebook announceme nts	p urchase	a c	abc							
REPETITION										
Cosplayers	vi	1	b							
messages	sit	a	ab							
Other		c	bc							
facebook announceme nts	p urchase	a c	abc							

b)

Table 2. a) Numerical simulation of the experiment repetition b) The experiment with three factors, basis and repetition

In order to identify the interactions, we complete a new table with the variables A, B, C. The C factor, in this case the "message" received by the respondent, influences four subtotals, namely Tc, Tac, Tbc, Tabc, the effect of C being the sum of the contributions of the factors that are influenced by it and which will be positive. The contributions of the others, uninfluenced of C, will be negative. Other environmental factors are noted T_L . (Table 3)

The specific calculations are as follows(Cazacu, 2017):

a) the number of degrees of freedom df_1 for each factor of influence and their combinations, as well as the number of degrees of freedom df_2 for the entire table:

$$df_1 = no. \text{ of levels} - 1 = 2 - 1 = 1$$
; $df_2 = [2 \cdot (2 - 1)] - 1 = 7$ (3.2)

b) the correction factor is determined according to the formula:

$$C=T_1^2/2^3 \times \text{no. of repetitions} = 130^2/16 = \frac{1056,25}{1000}$$
 (no. of repetitions = 2)

c) the sum of the squares SP_K is calculated for each factor of influence, and also for their combinations:

$SP_A=T_a^2$
/16=289
$SP_B = T_b^2 / 16 = 0$
$SP_C=T_c^2$
/16=6,25
$SP_AB=T_{ab}^2/16$
=0,25
$SP_AC=T_{ac}^2/16$
=4
$SP_BC=T_{bc}^2/16$
=0
SP_ABC=T ² _{abc} /
16=0,25

repetition: SP_REP=0
the entire table: SP_T=301,75
the experimental error:
SP_B + SP_C + SP_AB +
SP_REP=

(3.4)

 \mathbf{g}) the mean $\mathbf{MP}_{-}\mathbf{K}$ squares for each factor of influence and for their combinations:

$$MP_A=SP_A/df_1=SP_A$$
, ..., and also: $MP_B=SP_B$, $MP_C=SP_C$, ...

(3.5)

h) the square mean for the experimental error: MP_E=SP_E/df₂ =2/7=0,25

The *Fisher coefficients* F_k = MP_K/MP_E , $K \in \{a,b,c,ab,ac,bc,abc\}$, for each factor of influence, and for their combinations (with the admitted error e < 0,05): (3.6)

Ftab=5,59(tabeled value)	
$F_a = MP_A/MP_E = 289/0,25 = 1156 > 5,59$	(significant calculated
value)	
$\mathbf{F_b} = \mathbf{MP} \mathbf{B} / \mathbf{MP} \mathbf{E} = 0$	
$F_c = MP_C/MP_E=6,25/0,25=25>5,59$	(significant
calculated value)	
$F_{ab} = MP_AB/MP_E = 0.25/0.25 = 1$	
$F_{ac} = MP_AC/MP_E = 4/0,25=16>5,59$	(significant
calculated value)	
$\mathbf{F_{bc}} = \mathbf{MP_BC/MP_E} = 0$	

$$F_{abc} = MP_ABC/MP_E = 0,25/0,25=1$$

In the Table 3, we agree to denote: $T_K = \Sigma_K$ (sum of contributions), for example: Ta = 8+22-7-8+23+27-8+27=68; also: $T_K = T_1$, Ta, Tb, ..., Tabc. Other calculations inserted in the Table 3 are the following:

$$SP_K = T_K^2 / 2^3 \cdot nr. \ repetitions = T_K^2 / 2^3 \cdot 2 = T_K^2 / 16; \\ (3.7)$$

$$MP_K = SP_K / df_1 = SP_K (df_1 = 1); \ MP_E = SP_E / df_2 = SP_E / 7; \\ (3.8)$$

The calculated Fisher coefficients, compared to $\mathbf{Ftab} = 5,59$ (the table Fisher coefficient, for the error of 5%, show significant differences, both for the singular factors and their combinations.

The first order interactions are: AB, BC, AC. T	The 2nd order interaction is: ABC .
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										SP_K	MP_K /
				b	c	c	bc	K	K	$=T_{\rm K}^2/16$	MP_E
										C=105	Fcalculat:
	2			3	7		7	30	1	6,25	= Fcalc
-"	+"	-"	-"	+"	+"	-"	+"	8	a	289	1156,25
	l		l		l				_		
-"	-"	+"	-"	+"	-''	+"	+"		b	0	0
	١		.,,	.,	.,,	.,,	.,,			. a=	25
-"	-"	-"	+"	-"	+"	+"	+"	0	С	6,25	25
+"	_"	_"	+"	+"	_"	_''	+"		ab	0,25	1
+"	_"	+"	_"	_"	+"	_"	+"		ac	4	16
+"	+"	_"	_"	_"	_"	+"	+"		bc	0	0
_''	+"	+"	+"	_"	_"	_"	+"	2	abc	0,25	1
	$\Sigma \operatorname{SP}_{\mathbf{K}}(\mathbf{K} \neq 1) =$							299,75	SP_T = 301,75		

Table 3. The arithmetic signs to highlight the interactions.SP_T, SP_Kcalculus

The coefficients who correspond to the last category, are: Fa, Fc, and Fac. Thus, the major influence factors are A and C, respectively the messages and the anime relative events, such as cosplay events, which Comic con event is only one example.

4. Informational contribution of the independent factors or the buying decision process

In order to study the influences of the entities involved in the research results, together or alone, and their decisional importance for the marketing of the anime products, we will use the same data obtained from the author's online survey.(Cazacu, 2018a)

We also keep the previous names: X - the messages variable (for the questioned anime fans) and Y - the representative variable for the anime products, namely the purchase or preference for the cosplay costume, or for the anime and manga derivatives and Z-the Comic con event variable. We intend to evaluate the influence of the event factor C- the Z variable upon the anime products B(the Y variable, because the messages can not influence directly the purchasing of the anime rpoducts, only through the participation to the anime event. We will use some of the informational statistical instruments.

We are interested about the influence of the event activity upon the anime and the cosplay costumes market, in other words, the influence of the factor represented by the variable Z on the one represented by the variable Y, also by the information input brought to it from the combination of the factors represented by the X and Z variables. The total population existing in the three dimensions, n, m, p, corresponding to the variables X, Y, Z, is denoted with T.... Also, we have denoted some totals, as follows:

Tij = the influences of the alternative in the line i , and the
$\operatorname{column} \boldsymbol{j}$
T_i = the partial total on the line i
T_j = the partial total on the column j
$T_{i,k}$ the total of the line i , in the matrix number k
$T_{j,k}$ = the total of the column j
T k = the general sum of the matrix number k

In order to calculate the conditioned energies by the alternatives i, j, k of the variables X, Y, Z, we will use the formula of the conditioned probability.

Thus, the importance of the attributes of Z and Y variables, is first calculated, using the **Onicescu information energy**. The total energy of the set **Yover the structures of the alternatives of the variable** X is defined by the formula:

$$E(Y/Z) = \sum_{k=1}^{p=2} E(Y/Z_k) = \sum_{k=1}^{2} \sum_{i=1}^{2} \left(\frac{y_{kj}}{T_k}\right)^2 = \left(\frac{15}{31}\right)^2 + \left(\frac{16}{31}\right)^2 + \left(\frac{45}{99}\right)^2 + \left(\frac{54}{99}\right)^2 = 1,0046$$

(4.1)

also, that of the set X over the structures of the alternatives of the variable Y, similarly:

(4.2)

$$E(Z/Y) = \sum_{j=1}^{m=2} E(Z/Y_j) = \sum_{j=1}^{2} \sum_{k=1}^{2} \left(\frac{z_{kj}}{T_{..j}}\right)^2 = \left(\frac{15}{60}\right)^2 + \left(\frac{45}{60}\right)^2 + \left(\frac{16}{70}\right)^2 + \left(\frac{54}{70}\right)^2 = 1,2723$$

We will continue by reporting to each variable attributes, in order to make a difference. The *information energies of Z in the presence of each alternative structure of Y* are calculated as follows:

$$E(Z/Y_1) = \sum_{k=1}^{2} \left(\frac{z_{k1}}{T_{.1}}\right)^2 = \sum_{k=1}^{2} p^2 (Z_k/Y_1) = \frac{15^2 + 45^2}{60^2} = \mathbf{0.625}; E(Z/Y_2) = \mathbf{0.647}$$
(4.3)

so the average energy of the variable Zreported to the alternatives of Y, with the probabilities corresponding to them, is:

$$\overline{E(Z/Y)} = \sum_{j=1}^{2} p(Y_j) \cdot E(Z/Y_j) = \frac{60}{130} \cdot 0,625 + \frac{70}{130} \cdot 0,647 = \mathbf{0,637} (4.4)$$

All the same, the *information energies of Y in the presence of each alternative structure* of Z are calculated as follows:

$$E(Y/Z_{1}) = \sum_{j=1}^{2} \left(\frac{z_{1j}}{T_{1}}\right)^{2} = \sum_{j=1}^{2} p^{2}(Y_{j}/Z_{1}) = \left(\frac{15}{60}\right)^{2} + \left(\frac{16}{70}\right)^{2} = \mathbf{0,11474;}$$

$$E(Y/Z_{2}) = \sum_{j=1}^{2} \left(\frac{z_{2j}}{T_{2}}\right)^{2} = \sum_{j=1}^{2} p^{2}(Y_{j}/Z_{2}) = \left(\frac{45}{60}\right)^{2} + \left(\frac{54}{70}\right)^{2} = \mathbf{1,1576}$$

$$(4.5)$$

and the average energy of the variable Yreported to the alternatives of Z:

$$\overline{E(Y,Z)} = \sum_{k=1}^{p} E(Y/Z_{k}) \frac{T_{..k}}{T_{...}} = \sum_{k=1}^{p} E(Y/Z_{k}) \cdot p(Z_{k}) = E(Y/Z_{1}) \cdot p(Z_{1}) + E(Y/Z_{2}) \cdot p(Z_{2}) = \\
= (p^{2}(Y_{1}/Z_{1}) + p^{2}(Y_{2}/Z_{1})) \cdot p(Z_{1}) + (p^{2}(Y_{1}/Z_{2}) + p^{2}(Y_{2}/Z_{2})) \cdot p(Z_{2}) = \\
= \left[\left(\frac{15}{60} \right)^{2} + \left(\frac{16}{70} \right)^{2} \right] \cdot \frac{31}{130} + \left[\left(\frac{45}{60} \right)^{2} + \left(\frac{54}{70} \right)^{2} \right] \cdot \frac{99}{130} = \mathbf{0.908920722} \tag{4.6}$$

The attributes Y_i are the most *important for the decision*, the purchasing decision process being determined during the event(announced by the messages received from the cosplayers, or other facebook ads).

The last result means that the Y variable has a significant *mean energy* in the presence of the Z variable, so participating or just visiting such events influences the trade of the cosplay costumes and of the derivative anime products.

The "information input" AI ("transinformation") received by the Y variable, due to the Z variable is calculated with the energies difference:

$$AI(Y/Z) = \overline{E(Y/Z)} - E(Y) = 0.90892072 - 0.5 = 0.40892072 \cong 0.41 (4.7)$$

For the calculation of the *medium energy* of the Y variable, conditioned by the combined X and Z variables presence, we use the following calculus (m = n = p = 2):

$$\begin{split} E(YX_{i},Z_{k}) &= \sum_{j=1}^{m} \frac{x_{ijk}}{T_{i,k}} \\ \overline{E(YX \otimes Z)} &= \sum_{i=1}^{n} \sum_{k=1}^{p} E(YX_{i},Z_{k}) \cdot \frac{T_{i,k}}{T} = E(YX_{1},Z_{1}) \cdot \frac{T_{1.1}}{T} + E(YX_{1},Z_{2}) \cdot \frac{T_{1.2}}{T} \\ &\quad ... \\ + E(YX_{2},Z_{1}) \cdot \frac{T_{2.1}}{T} + E(YX_{2},Z_{2}) \cdot \frac{T_{2.2}}{T} = ((\frac{y_{111}}{T_{1.1}})^{2} + (\frac{y_{121}}{T_{1.1}})^{2}) \cdot \frac{T_{1.1}}{T} + ((\frac{y_{211}}{T_{2.1}})^{2} + \\ &\quad ... \\ + (\frac{y_{221}}{T_{2.1}})^{2}) \cdot \frac{T_{2.1}}{T} + ((\frac{y_{112}}{T_{1.2}})^{2} + (\frac{y_{122}}{T_{1.2}})^{2}) \cdot \frac{T_{1.2}}{T} + ((\frac{y_{212}}{T_{2.2}})^{2} + (\frac{y_{222}}{T_{2.2}})^{2}) \cdot \frac{T_{2.2}}{T} = \frac{8^{2} + 8^{2}}{16^{2}} \cdot \frac{16}{130} + \\ + \frac{7^{2} + 8^{2}}{15^{2}} \cdot \frac{15}{130} + \frac{22^{2} + 27^{2}}{49^{2}} \cdot \frac{49}{130} + \frac{23^{2} + 27^{2}}{50^{2}} \cdot \frac{50}{130} = \textbf{0,5034495} \end{split}$$

A= ACTIVITY-Z	C=MESSAG ES-X	Cos		T OTALS
visitors	Cosplayers messages Other facebook announceme	8	8	16
	nts total Cosplayers	<mark>7</mark> 15	8 16	15 31
buyers	messages Other facebook announceme	22	27	49
	nts total	23 45	27 54	50 99
	TOTALS	60	70	13 0

Table 4. Y set under the influences of the X and Z sets

Comparing the medium energies of the Y set, in the presence of Z-set(formula no. 6), and in the combined presence of the X, Z-sets(formula no. 8), we conclude that the event itself has the most powerful influence over the decision of purchasing process, and it's a reasonable conclusion: the messages are important, but only because they lead to the event, where the fans, the great part of them, come dressed in anime costumes, and also have the oportunity to buy derivated anime products, from the specialised sellers of such merchandise.

From these results we can see that the energy received by the Y variable, from the $X \otimes Z$ combination, that means, both the influences of the messages and the relative events, is significant, hence the *importance of e-marketing* in the development of the anime market.

Conclusions

The system formed by the independent X, Z variables and the dependent Y variable, considered as an I/O system, was analysed, in the present study, as a function of one or two variables: Y = F(X), Y = F(Z), and also Y = F(X, Z), having the appearance of a cybernetic system with only X or Z or both X and Z input, and the Y output.

Z variable, that is the "activity" factor **A** is important for the decision making process because it determines the purchase of the cosplay suits and anime derived products through participation in the anime conventions, thus determining the evolution of the **Y** variable, meaning the "anime products" factor **B**. On the other hand, the "messages" factor **C**, represented by the **X** variable, transmitted directly from the cosplayers or from other facebook ads, have an important role in organizing this kind of events, consequently, also for the evolution of anime culture market.

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ANNEX
ANALYSIS OF INFLUENCES, USING MS OFFICE EXCEL PROGRAM

		MPE=SPE/7=	0.25										
	SPT=	64	484	49	64	529	729	64	729	2712			
		1	а	b	С	ab	ac	bc	abc				
		8	22	7	8	23	27	8	27	130	T1	1056.25	Fcalc
64	8	**	"+"	iji.	n_n	"+"	.+.	11_11	*+*	68	Ta	289	115
484	22	0"	9	"+"	T."	"+"	Ç.	"+"	.+.	0	ТЪ	0	/
49	7	1 ₂ 11	1,0	i,	"+"	0.0	+*	"+"	*+*	10	Tc	6.25	2
64	8	"+"	ÇF.	1,1	"+"	"+"	1,0	9,8	*+*	2	Tab	0.25	1
529	23	"+"		"+"		1,0	.+.	-	.+.	8	Tac	4	1
729	27	.+.	.+.		"."	5.E	2.0	"+"	.+.	0	Tbc	0	/
64	8	125	.+.	"+"	"+"	7,7	·.·	1.0	.+.	-2	Tabe	0.25	
729	27								SPrep=	0.25	SPT=	299.75	
2712	130				5:					correction	SST=	301.75	
			678	648	30	SPREP	0.25		SPE=	SST-SPT-SPREP=	ERREP-SPREP=	1.75	
4	4	8	16	16	1358	SPT				MPE=SPE/7=	0.25		
11	11	22	121	121									
4	3	7	16	9		ERREP=	2						
4	4	8	16	16									
12	11	23	144	121	i.								
14	13	27	196	169									
4	4	8	16	16									
13	14	27	169	196									

45	16	31		ANIAL ITA INIT' CITA	TEL EAGTOR		A 1 1 11 1/		****				
45 54 60 70		99 130		ANALIZA INFLUENTEI FACTORU					X Variable		Z Variable		
60	70	130						0,50266667		BXCXXCX	ON PARTICIPANTS		
	Υ						Ra(X2)=	0,22448734	MESSAGES	Z1=visit	Z2=purchase	TOTAL	
ENTRO	OPII PE COMPONENTE				I(X1)=	1,1154772	E(Z1)=	0,502222222	X1=cosplayers	15*45,6%=7	49^45,6%=23	30	
(Y1)=	0,811278124				I(X2)=	0,8930848	E(Z2)=	0,5032	X2=other ads	15*54,4%=8	49^54,4%=27	35	
(Y2)= *	0,775512658	RH(Y1)=	0.1887219		I(Z1)=	2.1154772	W1=	0.230769231	TOTAL	15	50	65	
ENE	RGII COMPONENTE	RH(Y2)=	0,2244873		I(Z2)=	0,3785116	W2=	0.769230769		INTERACTIII	NEA FACTORILOR IND	EPENDENTI	
(Y1)=	0.625		0,2244070		H(X)=	0,9957275		0,005948718		I. TERUSCIA	THE TACTOR DON'T DE	ETEROEUTE.	
				0,459 RE(Y1)				- 5					
(Y2)=	0,647346939	The second second	0,25		H(Z)=	0,7793498		0,00444444					_
		Ea(Y2)=	0,2946939	0,541 RE(Y2)	E(X)=	0,5029586	Ea(Z2)=	0,0064				ȚA FACTORILOR Z ȘI X	
N1=	0,461538462	SUM=	0,5446939		E(Z)=	0,6449704	H(X1)=	0,78377695				ASUPRA LUI Y	
V2=	0,538461538	IE(Y1)=	0,2118339		H(Z1)=		H(X2)=	0,77551266			8	8	16
UM=	1	IE(Y2)=	0,291322		H(Z2)=	1,00	Ra(X1)=	0,21622305			7	8	15
3=	0,503155892	cc	DEFICIENT CO	RELATIE ATRIBUTE Y							15	16	31
f(Y1)=	0,087102404			0.6357							22	27	45
(Y2)=	0,120877799		0,4210104		1						23	27	50
	-,,	la(Y2)=	0,5789896		1						45	54	99
G=	0,207980204				1						60	70	13
a(Y1)=	0,418801418				1							Υ	
a(Y2)=	0,581198582								X1	Z1	15	16	3.
COEFICIEN	T CORELAȚIE ÎNTRE Y1, Y2				E(X1)=	0,6422222	Ea(X1)=	0,83315542	X2	Z2	45	54	95
-	0,274065934		patrate		E(X2)=	0,6473469	Ea(X2)=	0,29469388		-	60	70	13
(Z/Y1)=	0.625				Se=	1,1278493							
(Z/Y2)=	0,647346939	-			R(X1)=	0,7387117					CNEDCIE MEI	DIE CONDITIONATĂ	
(212)	ENERGII		0.4045040										
		PROD=	0,4045918		R(X2)=	0,2612883					E(YIZ1)=	0,114744898	
	IDIȚIONATE PE SET	K(Y1,Y2)==	0,9994324	(LEGATURA PUTERNICA)	W1=	0,4615385	TRANSI	NFORMAŢIE			E(Y/Z2)=	1,157602041	
(Y/Z)=	1,004652523				W2=	0,5384615					M(E(Y/Z))=	0,908920722	
(Z/Y)=	1,272346939						15	16	31				
		•			CI=	0,5432146	45	54	59		E(Y/X1,Z1)=	0,5	
						,							
					C(X1,X2)=	0.6447619	60	70	130		E(Y/X2.Z1)=	0.502222222	
	ENERGIE MEDIE				C(X1,X2)=	0,6447619	60	78	130		E(Y/X2,Z1)= E(Y/X1,Z2)=	0,502222222	
	ENERGIE MEDIE CONDITIONATĂ				C(X1,X2)=	0,6447619	60	70	130	J	E(Y/X1,Z2)=	0,505206164	
	ENERGIE MEDIE CONDIȚIONATĂ 0,63703297				C(X1,X2)=	0,6447619 H(Y/X1)=	0,99924925		0,995727452	! H(Y,X)=			
1(E(Z/Y))=	CONDIȚIONATĂ				C(X1,X2)=			H(Y)=			E(Y/X1,Z2)= E(Y/X2,Z2)=	0,505206164 0,5032	
(E(Z/Y))= ENE n(Z/Y1)=	CONDIȚIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000				C(X1,X2)=	H(YIX1)= H(YIX2)= SUM=	0,99924925 0,99403021 1,99327946	H(Y)= H(X)= SUM=	0,995727452	H(X,Y)=	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957	0,505206164 0,5032	
M(E(Z/Y))= ENE En(Z/Y1)= En(Z/Y2)=	0,53703297 RGIE NORMALIZATÁ 0,25000 0,29469				C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)=	0.99924925 0.99403021 1,99327946 0,81127812	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995	H(X,Y)= DIF=	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722	0,505206164 0,5032	
ENE En(Z/Y1)= En(Z/Y2)= EN. CO	CONDIȚIONATĂ 0,53703297 RGIE NORMALIZATĂ 0,25000 0,29469 ND. PE COMPONENTE				C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995	H(X,Y)= DIF= -0,99755201	E(YIX1,Z2)= E(YIX2,Z2)= 2,785761957 2,582518235 0,203233722	0,505206164 0,5032	
ENE En(Z/Y1)= En(Z/Y2)= EN. CO E(Y/Z1)=	0,63703297 RGIE NORMALIZATA 0,25000 0,29469 ND. PE COMPONENTE 0,11474				C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)=	0.99924925 0.99403021 1,99327946 0,81127812	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)=	H(X,Y)= DIF= -0,99755201 -0,79431829	E(YIX1,22)= E(YIX2,22)= 2,785761957 2,582518235 0,203233722	0,505206164 0,5032	
ENE (Z/Y1)= (n(Z/Y1)= (n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)=	CONDITIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000 0,29469 ND. PE COMPONENTE 0,11474 1,15760				C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0.99924925 0.99403021 1,99327946 0,81127812 0,77551266	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995	H(X,Y)= DIF= -0,99755201	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722	0,505206164 0,5032	
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE	CONDIȚIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000 0,29469 ND. PE COMPONENTE 0,11474 1,15760 RGIA NEAJUSTATĂ	1,31520408			C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586790783	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF=	H(X,Y)= DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722	0,505206164 0,5032	INAT
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE (Z)=	CONDIȚIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000 0,29469 IND. PE COMPONENTE 0,11474 1,15760 RGIA NEAJUSTATĂ 0,64	1,31520408			G(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586790783	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)=	H(X,Y)= DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751967 2,582518235 0,203233722 APORT INFORMAT	0,505206164 0,5032 TONAL ȘI INFLUENȚĂ COMBI	
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE (Z)=	CONDIȚIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000 0,29469 ND. PE COMPONENTE 0,11474 1,15760 RGIA NEAJUSTATĂ	1,31520408			G(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586790783	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF=	H(X,Y)= DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751967 2,582518235 0,203233722 APORT INFORMAT	0,505205184 0,5032 TONAL ȘI INFLUENȚĂ COMBI	10
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE (Z)= (Z)= (Y)=	CONDITIONATA 0,63703297 RGIE NORMALIZATA 0,25000 100. PE COMPONENTE 1,115760 2,116760 2,116760 2,16760 3,064 0,640 0,600	1,31520408			G(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586799783	H(Y)= H(X)= SUM= AJ(Y,Z)=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF= 0,40596	H(X,Y)= i DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751967 2,582518235 0,203233722 APORT INFORMAT 8 7	0,505206164 0,5032 1000AL \$1 INFLUENTA COMBI 8 8	10
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE (Z)= (Z)= (Y)=	CONDIȚIONATĂ 0,63703297 RGIE NORMALIZATĂ 0,25000 0,29469 IND. PE COMPONENTE 0,11474 1,15760 RGIA NEAJUSTATĂ 0,64	1,31520408			C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586799783	H(Y)= H(X)= SUM=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF=	H(X,Y)= i DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722 APORT INFORMAT 8 7 15	0,505206164 0,50321 TONAL ŞIINFLUENȚĂ COMBI 8 8	1 3
(E(Z/Y))= ENE n(Z/Y1)= n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)= ENE (Z)= (Z)= (Y)=	CONDITIONATA 0,63703297 RGIE NORMALIZATA 0,25000 100. PE COMPONENTE 1,115760 2,116760 2,116760 2,16760 3,064 0,640 0,600	1,31520408			G(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586799783	H(Y)= H(X)= SUM= AJ(Y,Z)=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF= 0,40596	H(X,Y)= i DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722 APORT INFORMAT 8 7 15 22	0,505206164 0,5032	1 1 3 4
ENE (Z/Y1)= (n(Z/Y1)= (n(Z/Y2)= EN. CO (Y/Z1)= (Y/Z2)=	CONDITIONATA 0,63703297 RGIE NORMALIZATA 0,25000 100. PE COMPONENTE 1,115760 2,116760 2,116760 2,16760 3,064 0,640 0,600	1,31520408			C(X1,X2)=	H(Y/X1)= H(Y/X2)= SUM= H(X/Y1)= H(X/Y2)=	0,99924925 0,99403021 1,99327946 0,81127812 0,77551266 1,586799783	H(Y)= H(X)= SUM= AJ(Y,Z)=	0,995727452 0,792472498 1,78819995 I(Y,X)= I(X,Y)= DIF= 0,40596	H(X,Y)= i DIF= -0,99755201 -0,79431829 0,203233722	E(YIX1,Z2)= E(YIX2,Z2)= 2,785751957 2,582518235 0,203233722 APORT INFORMAT 8 7 15	0,505206164 0,50321 TONAL ŞIINFLUENȚĂ COMBI 8 8	INAT/ 16 15 33 49 50