

# Towards a New Architecture of Knowledge: Big Data, Culture and Creativity



# ***Towards a New Architecture of Knowledge: Big Data, Culture and Creativity***



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## Innovation and Digital Marketing in Guadalajara, Mexico

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### Structured Abstract

**Purpose.** The Innovation (**INNOV**) process is considered as a driver to increase the competitiveness in the Digital Marketing (**DM**) sector; however, many firms ignore how their own **DM** resources and capabilities affect the **INNOV** process. So, through a **DM-INNOV** proposed conceptual model, the aim of this study is to determine which are the main factors of **INNOV** are affected from **DM**, in Guadalajara, México.

**Design/methodology/approach.** The **design** is based on **INNOV** process model, construct published previously by Mejía-Trejo et al. (2014) and complemented with the **DM** model construct proposed here, with variables which are tested for validity and reliability through a pilot survey in order to get the final model. The study subjects were the most important customers of Monster Online (a mexican company, specialized in **DM**) and analysed by inferential statistics determining the Cronbach’s Alpha reliability in a pilot test and multiple linear regression (**MLR**) based on **Stepwise Method** using SPSS 20 program. **The methodology** is proposed as a descriptive, exploratory, correlational and a transversal study, based on documentary research to obtain a final questionnaire using the Likert scale applied to the total population: **900** Monster’s Online relevant CEO clients. So, we proposed:

- 2) For **DM**: Web integration (**WBI**); Web Experience (**WBE**); Web Strategy (**WBS**) and Technological Resources (**TRS**)
- 3) For **INNOV** process by Mejía-Trejo’s et al. (2014) conceptual model with: Innovation Value Added (**IVADD**); Innovation Income Items (**IIIT**); Innovation Process (**INPROC**); Innovation Performance (**IPERF**); Innovation Feedback Items (**IFEED**); Innovation Outcome Items or Results of Innovation (**IOIT**).

**The approach** is based on the importance to relate the **DM** on **INNOV** process to determine their main factors that are affected and generate more innovation in the **DM** sector

**Originality/Value.** This article is aimed to determine the main factors that drive the **DM** on **INNOV** process to get more, about this, by mean of original theoretical models as a product of the principal related theories about **DM** and **INNOV** process. The **Value** of the study, is to obtain a first settlement for a generalized model able to be applied in other sectors in Mexico.

**Practical implications.** The results obtained, will allow us measuring the level of correlation amongst the variables in study, and discover how the main factors of **INNOV** process are influenced for **DM** components.

**Keywords** – Digital Marketing, Innovation, Innovation in Marketing

**Paper type** – Academic Research Paper

## 1. Introduction

Internet is the cornerstone for the currently marketers . (Chaffey, Ellis-Chadwick, 2014; Wierenga, B., 2008) due they have implemented new tools based on **INNOV** process (OCDE, 2005) creating several competitive advantages (Porter, 2001). Hence, marketers are forced to figure out new ways about how to detect new needs and how the consumers, find the products and services in real time (Forrester, 2009). This article aims to find the determinants that drive the innovations (**INNOV**) due the digital marketing (**DM**) by mean of a theoretical model, checked empirically to make an assessment of each one of their components. The structure of this study begins with the **INNOV** model construct published previously by Mejía-Trejo et al. (2014) complemented with the **DM** model construct proposed here, with variables which are tested for validity and reliability through a pilot survey in order to get the final model. We selected the 900 most important CEOs customers of Monster Online (a mexican company, specialized in **DM**) and analysed by inferential statistics to conclude a description of the final results highlighting those indicators that are opportunities for improvement in the **INNOV** by **DM**.

## 2. Problem, Hypotheses and Rationale of the Study

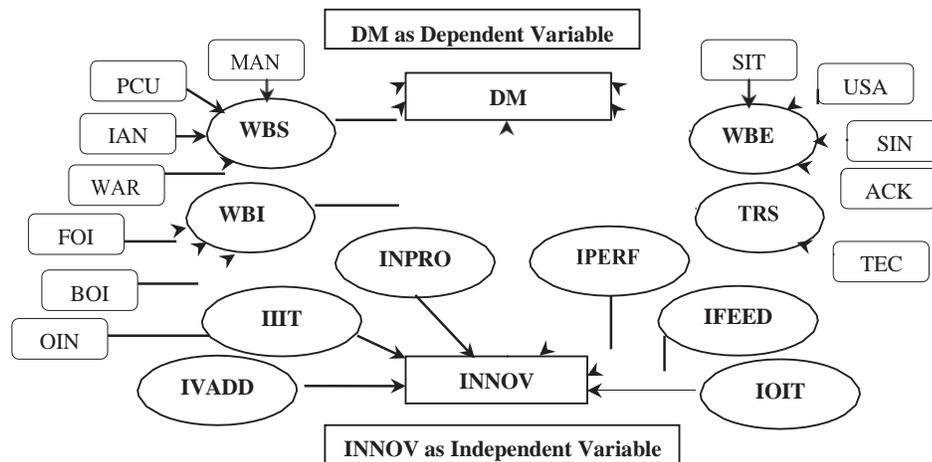
The problem is proposed in a General Question (**GQ**): which are the components of **INNOV** that drives **DM**? The rationale of the study is due the interest of marketing companies like Monster Online to identify the determinants of **INNOV** produced by **DM**.

The Specific Questions (SQ): **SQ1**.-Which are the variables and indicators of the general conceptual model?; **SQ2**.-Which are the relationships of these variables?; **SQ3**.-Which are the most relevant variables of the model?. Hypothesis (H): About the currently importance, by the firms like Monster Online about the **INNOV**, it is presented in **less than 50%** of the variability in its **DM** results..

### 3. Literature Review

We made it in two parts. First, around the definition of **DM** as a tool that helps to the marketers, to characterize the profile, the behavior and satisfaction of the customers using Internet (Chaffey, Ellis-Chadwick, 2014). This is complemented with the concept of Marketing Innovation (OCDE, 2005) paragraph 171 where is distinguishing features compared to other changes in a Firm's marketing instruments in the implementation of a marketing method not previously used by the firm. It must be part of a new marketing concept or strategy that represents a significant departure from the firm's existing marketing methods. The new marketing method can either be developed by the innovating firm or adopted from other firms or organizations. These methods can be implemented for both new and existing products. In this sense, we recognize the importance of the Technological Resources (**TRS**) defined as technological issues and services to be offered in the administration of e-commerce, with direct impact in the internet growth in the world (Chaffey, Ellis-Chadwick, 2014). The proposed indicators are gathering in Technology (**TEC**) based on concepts such as: Management Programs (Wells et al. 2011; Villamizar et al., 2012); Payment Systems & Security (Busch et al., 2013) and Architecture & Hosting (Iantirsky, 2012). Web Integration (**WBI**) will be understood as the synergistic process that is necessary to achieve the objectives of the organization. This synergy can be developed between physical and virtual organization (Chaffey, Ellis-Chadwick, 2014). The indicators are: Conventional Strategies & Activities of Marketing (Kotler, 2009; Lamb, et al. 2006; Brondmon, 2002) which are carried by employees of the company to the customer and grouped in Integration Front Office Front Office Integration. (**FOI**); Sinergy in Operations (Birogul et al. 2011), which are carried by company employees into the company and are grouped in Back Office Integration (**BOI**); Commercial Partners (Min, et al., 2008) and Logistics (Lee, 2012) placed in Others in Integration (**OIN**). Web Experience (**WBE**) here the firm's website is the primary source of customer experience and therefore the most important element of

communication in DM, as it is the primary source of interaction and transaction with the consumer web (Chaffey, Ellis-Chadwick, 2014). The indicators are: Domain (Cuesta, 2010); Interface (Zhenhai, 2012); Design and Aesthetic (Cuesta, 2010) gathered in Site (SIT); easy to use (Constantinides, 2002), identifying the Usability (USA); Comments (Zhenhai, 2012) belonging to the Social Influence (SIN); and finally, the Number of Visits (Cohan, 2000) grouped in Acknowledgment (ACK). Web Strategy (WBS) has important consequences for the site's identity, position, atmosphere, etc. to differentiate the site and create a website with a unique proposition that appeals to the target market, offer customer value strengthen competitive advantage (Chaffey, Ellis-Chadwick, 2014). The indicators are: the Competitors (Juárez, 2012; Lytras, et al., 2009; Osterwalder & Pigneur, 2010; Porter, 2001); the Potential Market and the Marketing trends (Fernández, 2010; Anwar et al., 2013) belonging to Market Analysis (MAN); Behavior (García & Díaz, 2010), Customer Needs (Hendrix, 2014) grouped in Potential Customers (PCU); Human Resources, Values, Mission, Visión (Daft, 2007;), grouped in Internal Analysis (IAN); Finally, the indicator Web Activity Rol (WAR) (Treesinthuros, 2012). As a second part of the model construct, we have the INNOV process as a matter of study divided in several stages proposed based on Mejía-Trejo (et al., 2014) as: Innovation Value Added (IVADD); Innovation Income Items (IIIT); Innovation Process (INPROC); Innovation Performance (IPERF); Innovation Feedback Items (IFEED); Innovation Outcome Items or Results of Innovation (IOIT). Hence, according all mentioned above, we proposed the General Conceptual Model. See **Scheme 1**.



Scheme 1. General Conceptual Model- Source: Own by Authors adaptation

#### 4. Analysis of Results

Table 1.-Final Questionnaire

<b>DIGITAL MARKETING (DM)</b>				
<b>VAR</b>	<b>IND</b>	<b>Question (by the approach: The Firm)</b>	<b>Author(s)</b>	
<b>(1)WBS</b>	<b>(1)MAN</b>	1.-At the start of a new project, makes a recognition of their potential competitors.	Juárez (2012); Lytraset al.,(2009); Osterwalder & Pigneur, (2010); Porter (2001)	
		2.-Constantly analyzing their environment, seeking to identify potential competitors, both physical and virtual.		
		3.-Knows and uses its competitive advantage.		
		4.-Knows competitive advantages of its natural competitors.		
		5.- Knows competitive advantages of its competitors on the net.		
		6.- At the start of a new project, estimates the number of potential customers.		Fernández (2010); Anwar et al.(2013)
		7.-Seeks to be at the forefront of market trends.		
	<b>(2)PCU</b>	8.- At the start of a new project. estimates the customer profile.	García & Díaz, (2010);	
		9.- Knows and satisfies the customer needs according their requirements	Hendrix (2014)	
	<b>(3)IAN</b>	10.-Makes a thorough analysis before hiring a new element to the team.	Daft (2007);	
		11.-Takes into account the capabilities and skills of team members to assign a work.		
		12.- Knows and apply the values of the organization.		
		13.- Has a clear mission and helps carry it out every day.		
	<b>(4)WAR</b>	14.- Has a clear vision and helps carry it out every day.	Treesinthuros, (2012)	
		15.-Takes the role about their product and services as information		
		16.- Takes the role about their product and services as about what and how products and services are.		
		17.- Takes the role about their product and services as media communication		
		18.- Takes the role about their product and services as promotion		
	<b>(2)WBI</b>	<b>(5)FOI</b>	19.- Takes the role about their product and services are a combination of all mentioned above.	Kotler (2009); Lamb et al.(2006); Brondmon(2002); Wierenga, B.. (2008).
20.- Seeks synergy in the conventional marketing activities				
<b>(6)BOI</b>		21.- The employees, whose are responsible for receiving payments, schedule visits and survey in the field, also are in charge of these activities on the web .		
		22.- Activities such as receiving payments, schedule visits and survey in the field, are able to be replicated in an online environment .	Birogul et al., (2011);	
<b>(7)OIN</b>		23.- The level of service offered in physical environment, is the same that is offered by using a web service.		
		24.- Involves Outsourcing in their activities.	Min et al.(2008)	
			25.- Provides tool to the Outsourcing to join it in the web activities. (Such as logistics, payment, promotions, etc).	
		26.- The website of the company makes: promotion,	Cuesta (2010)	

(3)WBE	(8)SIT	price, sales catalogs, distribution points , etc.	
		27.- The website serves as a platform for communication , interaction and transaction with the web customer.	Zhenhai, (2012); Malik & Huet, (2011)
		28.- The website shows a nice design that invites you to discover all that it contains	Cuesta (2010)
	(9)USA	29.- The website is designed with multiple interfaces criteria and is easy to use.	Constantinides, (2002)
	(10)SIN	30.- The website is a site easy to make comments or questions. 31.- The website uses the comments as a possible success predictor, of products or services	
(11)ACK	32.- Uses a strategy on how long the customer will be in the network and what they share in this .	Cohan, P. (2000); Lehman. & Vajpayee, (2011)	
(4)TRS	(12)TEC	33.-Uses specialized software to do all their core activities	Wells et al., (2011); Villamizar et al.(2012):
		34.- Uses specialized platforms to manage different resources (such as Oracle , SAP , Lotus )	
		35.- Considers the security of stored data as a priority.	Busch et al.,(2013)
		36.- The organizational architecture is considered as a priority	Iantmsky(2012); Ojala., & Tyrvaiven, (2011):
		37.- Technological resources are considered as a priority	
<b>INNOVATION (INNOV) (Please see Mejia-Trejo's et al. ,2014 for references and authors )</b>			
<b>VAR</b>	<b>IND</b>	<b>Question</b>	<b>Author</b>
(5)IVADD	(13)VAEDC	38.-The innovation increases the Emotions & Desire of the Customer	Chaudhuri (2006)
	(14)VACR	39.-The Cost is the main constraint to increase the value	Bonel (et al.,2003)
		40.-The Risk is the main constraint to increase the value	
	(15)VACUS	41.-The innovation increases the Customer value	
	(16)VASHO	42.-The Innovation increases the Shareholder value	
	(17)VAFRM	43.-The innovation increases the value of the Firm	
	(18)VASEC	44.-The innovation increases the value of the Sector	
	(19)VASOC	45.-The innovation increases the value to the Society	
(20)VAPVR	46.-The innovation considers the relation price-value added	Gale & Chapman (1994)	
(6)IIT	(21)EIPH	47.-Opportunity Identification	Kausch (et al. 2014)
		48.-Opportunity Analysis	
		49.-Idea Generation	
		50.-Idea Selection	
		51.-Concept Definition	
	(22)FFI	52.-Use of sophisticated equipment to support innovation	Shipp (et al. 2008); McKinsey (2008)
		53.-Invests in R&D+I	
		54.- Staff to R& D+I	
	(23)EFFI	55.-Makes efforts to use and / or generate Patents	Canibano (1999); Shipp (et al. 2008); Lev (2001); Howells (2000)
		56.-Makes efforts to create and / or improve Databases	
57.-Makes efforts to improve the organizational processes			
58.-Makes efforts to use the most of knowledge and			

		skills of staff	
		59.- Decisions planning increases its availability to the risk	
		60.-Makes efforts to discover New Market Knowledge	Popadiuk & Wei-Choo (2006)
		61.-Makes efforts to study the Existing Market Knowledge	
<b>(7)INPR OC</b>	<b>(24)RDI</b>	62.-Makes actions to improve existing processes of Research & Development + Innovation	Shipp (et al.,2008); McKinsey (2008); OECD (2005)
		63.-Makes studies about Product Lifecycle	Gale & Chapman (1994)
	<b>(25)DSGN</b>	64.-Makes actions to improve the existing design	OECD (2005)
		65.-Employees have influence on their job	Nicolai (et al., 2011)
		66.-Employees engaged in teams with high degree of autonomy	
		67.-The strategy is based on Open Innovation concepts	Chesbrough (et. al 2006)
	<b>(26)IPPI</b>	68.-Makes actions to develop prototypes for improvement	Chesbrough (2006); McKinsey (2008)
	<b>(27)IPPIP</b>	69.-Makes improvement actions to pre-production	
	<b>(28)MR</b>	70.-Makes to investigate market needs of obsolete products	Chesbrough (et. al. 2006);Rogers (1984)
		71.-Makes to investigate the needs actions and / or market changes for innovators	
		72.-Makes to investigate needs and / or market changes for early adopters	
		73.-Makes to investigate needs and / or market changes for early majority	
		74.-Makes to investigate needs and / or market changes for late majority	
		75.-Makes to investigate needs and / or market changes for laggards	
		76.-Makes to investigate the onset of a new technology	Afuah (1997)
		77.-Makes to investigate the term of a technology	
	<b>(29)NOVY</b>	78.-Decides actions to improve or introduce new forms of marketing	Lev (2001)
		79.-Seeks to be new or improved in the World (Radical Innovation)	OECD (2005); Afuah (1997)
		80.-Seeks to be new or improved to the Firm (Incremental Innovation)	
		81.-Seeks to be new or improved in the region (Incremental Innovation)	
82.-Seeks to be new or improved in the industry (Incremental Innovation)			
<b>(30)TRAI</b>	83.-Makes actions to train the staff continuously (Incremental Innovation)		
<b>(31)TOINN</b>	84.-Makes actions to innovate in technology		
	85.-Makes actions for innovation in production processes		
	86.-Makes actions to improve or introduce new products forms		
	87.-Makes actions to improve or introduce new forms of service		
	88.-Makes actions to improve or introduce new		

		organizational structures and functions	
		89.-Innovation activities tend to be rather radical	
		90.-Innovation activities tend to be incremental	
<b>(8) IOIT</b>	<b>(32)NPSD</b>	91.-Detects the projected level of revenues generated by innovation	Shipp (et al. 2008);
		92.-Detects the projected customer satisfaction level generated by innovation	McKinsey (2008)
		93.-Detects the projected sales percentages levels generated by innovation	Lev (2001)
		94.-Detects the level of the number of launches of new products/services in a period	McKinsey (2008)
		95.-Detects the net present value of its portfolio of products/services in the market generated by the innovation	
<b>(9) IPERF</b>	<b>(33)PCBOI</b>	96.- Use of an indicator like: Innovation income / (Investment in Innovation) ?	Bermúdez-García (2010)
	<b>(34)POIFCI</b>	97.-Use of an indicator like: Innovation Identified Opportunities / (Total Contributors on the Process)?	
	<b>(35)PGIR</b>	98.-Use of an indicator like: Generated Ideas / (Market Knowledge Opportunities xTotal Contributors on Process)?	
	<b>(36)PEOIG</b>	99.-Use of an indicator like: Number of Approved Ideas / (Number of Generated Ideas)?	
	<b>(37)PIEP</b>	100.-Use of an indicator like: Number of Correct and Timely Prototype Terminated/(Total Prototyping Approved)?	
	<b>(38)PIGR</b>	101.-Use of an indicator like: Number of Generated Innovations / (Identified Innovation Opportunities)?	
	<b>(39)PINSI</b>	102. Use of an indicator like: Number of unsuccessful innovations implemented/(Total Innovation)?	
	<b>(40)PTHP</b>	103.-Does exist any relationship among : university- government- industry, to develop the innovation?	Smith & Leydesdorff, (2010)
<b>(10)IFE ED</b>	<b>(41)IFCAP</b>	104.-Identify intellectual capital dedicated to innovation for its improvement	Lev(2001);Shipp (et al. 2008); Nicolai (et al., 2011)
	<b>(42)IFPP</b>	105.- Identify the stages of new or improved process for upgrading	OECD (2005); Chesbrough (2006)
		106.-Identify attributes of new or improved product/service for its improvement	
	<b>(43)IFINN</b>	107.-Identify the stages of new or improved form of marketing for improvement	
		108.-Identify the stages of new or improved technology for improvement	
		109.-Identifies the stages of the new or improved structure and functions of the organization to its improvement	
		110.-Identifies the type of innovation (radical or incremental) that has given best results	
	<b>(44)IFV</b>	111.-Identify the new or improved value proposition (benefits costs) for its completion; relation value-price	Bonel (et al.,2003)
<b>(45)FLINNO</b>	112.-The type of leadership that drives innovation is Transactional/Transformational/Passive	Mejía-Trejo (et al., 2013), Gloet & Samson (2013)	
	113.-The type of leadership that drives innovation is Transformational		
	114.-The type of leadership that drives innovation is Passive		

Notes: VAR.-Variable; IND.-Indicator  
Source:Own

The questionnaire confidence applied to **900 CEO's**, Monster's Online customers by Cronbach's Alfa Test= **0.707** (high reliability, according Hinton, 2004)

-MLR by Stepwise method showed **Table 2:**

Table 2.- Pearson's Correlation Coefficient

<b>Pearson's Correlation Coefficient</b>	<b>DM</b>	1	<b>.741**</b>	<b>.300**</b>	<b>.688**</b>	<b>.290**</b>	<b>.120**</b>	<b>.218**</b>
	<b>IVADD</b>	<b>.741**</b>	1	<b>.322**</b>	<b>-.300**</b>	<b>.190**</b>	<b>.200**</b>	<b>.170**</b>
	<b>IIT</b>	<b>.300**</b>	<b>.322**</b>	1	<b>.280**</b>	<b>.170**</b>	<b>.150**</b>	<b>.157**</b>
	<b>INPROC</b>	<b>.688**</b>	<b>.300**</b>	<b>.280**</b>	1	<b>.156**</b>	<b>.180**</b>	<b>.160**</b>
	<b>IPERF</b>	<b>.290**</b>	<b>.190**</b>	<b>.170**</b>	<b>.156**</b>	1	<b>.150**</b>	<b>.130**</b>
	<b>IFEED</b>	<b>.120**</b>	<b>.200**</b>	<b>.150**</b>	<b>.180**</b>	<b>.150**</b>	1	<b>.110**</b>
	<b>IOIT</b>	<b>.218**</b>	<b>.170**</b>	<b>.157**</b>	<b>.160**</b>	<b>.130**</b>	<b>.110**</b>	1

\*\* Sig. Correlation in 0.01  
Source: SPSS 20 as a research result.

## 5. Discussion and Conclusions

As a general rule, predictor variables can be correlated which each other as much as **0.8** before there is a cause of concern about multicollinearity (Hinton et al., 2004; Hair et al. 2014).

-**Table 3** shows the set of variables entered/ removed by **Stepwise Method**.

Table 3.- Variables Entered/Removed

<b>Model</b>	<b>Variables Entered</b>	<b>Variables Removed</b>	<b>Method</b>
<b>1</b>	<b>IVADD</b>		Stepwise (Criteria: Probability of F to enter <= .050, Probability of F to remove >= .100).
<b>2</b>	<b>INPROC</b>		

Dependent Variable: Digital Marketing (**DM**)  
Source: SPSS 20 as a research result.

Notice that SPSS 20 has entered into the regression equation the **2 variables: IVADD, INPROC** that are significantly correlated with **DM**.

**Table 4** shows the Model Summary where we can see **Model 1** and **Model 2**.

Table 4.-Model Summary

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	<b>.741a</b>	<b>.550</b>	.490	5.234
2	<b>.925b</b>	<b>.855</b>	.350	3.221

a. Predictors: (Constant), **IVADD**  
b. Predictors: (Constant), **IVADD, INPROC**  
Source: SPSS 20 as a research result.

The R Square Value (.550) in the Model Summary shows the amount of variance in the dependent variable that can be explained by the independent variables. In this case:

**Model 1.-** The independent variable **IVADD**, accounts **55%**, of the variance in the scores of the Digital Marketing (**DM**)

**Model 2.-** The independent variables **IVADD**, **INPROC** together account **85.5%**, of the variance in the scores of the Digital Marketing (**DM**).

The R Value (.741) in **Model 1**, is the multiple correlation coefficient between the predictor variables and the dependent variable. As **IVADD** is the only independent variable in this model, we can see that the R value is the same value as the Pearson's Correlation Coefficient in our pairwise correlation matrix.

In **Model 2**, the independent variables **IVADD**, **INPROC** are entered, generating a multiple correlation coefficient, **R= .925**

The adjusted R Square adjusts for a bias in R Square. With only a few predictor variables, the adjusted R should be similar to the R square value. We would usually take the R square value but we advise to take the adjusted R square value, when we have a lot of variables. The **Std. Error of the Estimate** is a measure of the variability of the multiple correlation.

**Table 5** shows the results of Analysis of Variance (**ANOVA**).

Table 5.-ANOVA (a)

Model	Sum of Squares	df	Mean Square	Test Statistic F Value	Sig. (p value)
1	746.180	1	<b>746.18</b>	<b>37.900</b>	.010(b)
Regression	610.467	31	19.69		
Residual	<b>1356.647</b>	32			
Total					
2	1149.018	2	574.509	<b>63.665</b>	.002(c)
Regression	270.737	30	9.024		
Residual	1419.755	32			
Total					

a. Predictors: (Constant), **IVADD**

b. Predictors: (Constant), **IVADD**, **INPROC**

c. Dependent Variable: **DM**

Source: SPSS 20 as a result of the research.

The **ANOVA** tests the significance of each regression model to see if the regression predicted by the independent variables explains a significant amount of the variance in the dependent variable. As with any **ANOVA** the essential items of information needed are

the **df**, the **F value (Regression/Residual)** and the **probability value**. Both the regression models explain a significant amount of the variation in the dependent variable.

**Model 1= F(1,31)=37.9; p<0.05** and **Model 2: F(2, 30)=63.655; p<0.01**

Dividing the **Sums of Squares** by the degrees of freedom (**df**) gives us the **Mean Square or variance**. We can see that the **Regression explains significantly more variance than the error or Residual**. We calculate R<sup>2</sup> by dividing the Regression Sum of Squares by the Total Sum of Squares. The values for **model 1** have been used as an example.

$746.18/1356.647 = 0.550 = R \text{ square}$  (please, see Table 4).

Due to the Stepwise Method we had the **Table 6** that shows the calculus of Coefficients.

Table 6.-Coefficients by Stepwise Method (A)

Model		Unstandardized Coefficients		Standardized Coefficients	t.	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.375	15.209		.487	.904
	IVADD	.679	.351	.704	3.662	.010
2	(Constant)	-3.658	11.212		7.344	.830
	IVADD	.677	.267	.522	5.627	.010
	INPROC	.522	.162	.518	3.568	.012

a. Dependent Variable: **DM**  
Source: SPSS 20 as a research result.

The Unstandardized Coefficients B column gives us the coefficients of the independent variables in the regression equation for each model.

**Model 1: DM = 2.375 + .679 IVADD; Model 2: DM= -3.658+ .677 IVADD+ .522 INPROC**

The **Standardized Beta Coefficient** column informs us of the contribution that an individual variable makes to the model. The beta weight is the average amount the dependent variable increases when the independent variable increases by one standard deviation (all other independent variables are held constant). As these are standardized we can compare them. **t tests** are performed to test the two-tailed hypothesis that the beta value is significantly higher or lower than zero. This also enables us to see which predictors are significant. By observing the **Sig.** values in our example we can see that for **Model 1** the **IVADD** scores are significant ( $p < 0.05$ ). However, with **Model 2** both **IVADD** scores ( $p < 0.05$ ) and **INPROC** ( $p < 0.05$ ) are found to be significant predictors

(shaded values in the coefficients table). We advise on this occasion that you use **Model 2** because it accounts for more of the variance. **The Unstandardized Coefficients Std. Error** column provides an estimate of the variability of the coefficient.

When variables are excluded from the model their **beta values, t values** and **significance values** are shown in the **Excluded Variables** on **Table 7**.

Table 7.- Excluded Variables (a)

Model	Beta In	t.	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
1 <b>IIIT</b> <b>IPERF</b> <b>IFEED</b> <b>IOIT</b>	.568 (b)	3.568	<b>.012</b>	.846	.938
	.344 (b)	1.445	.222	.638	.906
	-.344(b)	-1.474	.336	-.434	.895
	-.232(b)	-.937	.420	-.332	.800
2 <b>IPERF</b> <b>IFEED</b> <b>IOIT</b>	.256 (c)	.909	.458	.335	.848
	-.248 (c)	-1.689	.292	-.549	.892
	-.024 (c)	-.056	.900	-.080	.865

(a) Dependent Variable: **DM**

(b) Predictors in the Model: (Constant) **IVADD**

(c) Predictors in the Model. (Constant) **IVADD,INPROC**

Source: SPSS 20 as a result of the research.

The **Beta In** value gives an estimate of the beta weight if it was included in the model at this time. The results of **t tests** for each independent variable are detailed with their probability values. From **Model 1** we can see that the **t value** for **IIIT** is significant (**p < 0.05**). However as we have used the Stepwise method **this variable has been excluded** from the model. As **IIIT** has been included in **Model 2** it has been removed from this table. As the variable **IVADD** scores is present in both models it is not mentioned in the **Excluded Variables** table. The **Partial Correlation** value indicates the contribution that the excluded predictor would make if we decided to include it in our model. **Collinearity Statistics Tolerance** values check for any collinearity in our data. As a general rule of thumb, **a tolerance value below 0.1 indicates a serious problem**.

Hence, in solving the Hypothesis and the questions proposed in this research, we obtained:

**GQ**: which are the components of Innovation (**INNOV**) that drives digital marketing (**DM**)? is solved by mean the results of the Theoretical Framework showing the **Scheme 1. General Conceptual Model** for **DM**: 4 Variables/ 24 Indicators /37 questions; for **INNOV** process, we used the Mejía-Trejo et al. (2014) with: 6 Variables/ 33 Indicators/ 77 questions.

About the Specific Questions, we obtained:

**SQ1.**-Which are the variables, and indicators of the general conceptual model? We obtained **Table 1.-Final Questionnaire** relating the **DM** and **INNOV** descriptors, mentioned above included the authors per item.

**SQ2.**-Which are the relationships of these variables? We obtained **Table 2.- Pearson's Correlation Coefficient** among the **DM**, and the **INNOV** model (Mejía-Trejo et al. , 2014) components: **IVADD, IIIE, INPROC, IPERF, IFEED, IOIT**. So, we obtained as a predictive equations of **DM**, as **Model 1:  $DM = 2.375 + .679 IVADD$**  and **Model 2:  $DM = -3.658 + .677 IVADD + .522 INPROC$**  (see **Table 6**).

**SQ3.**-Which are the most relevant variables of the model? We obtained: **IVADD** and **INPROC** (see **Tables: 3, 4, 5**); opposite of these were: **IIIT, IPERF, IFEED, IOIT** (see **Table 7**)

Hypothesis (**H**): About the currently importance, by the firms like Monster Online about the **INNOV**, it is presented **in less than 50%** of the variability in its **DM** results.. **Table 4, H is rejected** because **INNOV (85.5%>50%)** of our model detects the variability on the dependent variable **DM**.

Finally, we conclude for the Monster's Online 900 principal CEOs customers, perceived that the Firm efforts are aimed to develop **INNOV** based on : Innovation Value Added (**IVADD**, Chaudhuri, 2006; Bonel et al.,2003; Gale & Chapmann, 1994) and Innovation Process (**INPROC**, Shipp et al., 2008; McKinsey, 2008; OECD, 2005; Gale & Chapman , 1994; OECD , 2005; Nicolai, et al., 2011; Chesbrough et. al 2006; Rogers, 1984; Afuah, 1997; Lev 2001) to Digital Marketing (**DM**), than the other **INNOV** factors.

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