# IFKAD 2016

11th International Forum on Knowledge Asset Dynamics

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

### PROCEEDINGS

15 - 17 June 2016 Dresden - Germany

### IFKAD 2016 11<sup>th</sup> International Forum on Knowledge Asset

**Dynamics** 

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

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Edited by JC Spender, Giovanni Schiuma, Joerg Rainer Noennig

Design & Realization by Gabriela Jaroš

#### FOREWORD

Imagine a conference that is truly open – open to a broad range of disciplines and fields of specialisation, yet still maintaining a clear focus of topic – open to highly experimental formats of interaction, yet still keeping standards of scientific discourse – open to participants from young potentials to distinguished experts, yet enabling fruitful exchange to all directions. This is what we as organizers had in mind when programming the 11th edition of IFKAD. What is more, our conference not only endeavours in novel degrees of openness, but also in an ambitious task of "scientific structural design".

With our conference subtitle "Towards a New Architecture of Knowledge" we indicate that the structures and patterns of knowledge research – as done by the knowledge managers, creativity trainers, information analysts, and other participants at IFKAD – have to be set into a comprehensive picture. This picture, however, is not yet automatically defined. We still must actively design it. We need to take different perspectives in order to imagine the overall scheme. In view of radically changing demands on knowledge work as an eminent factor for personal, organizational, and societal success, we have to rethink its structures. We need to discover new ways of creating, processing, and sharing knowledge beyond the paths of established disciplines.

In this sense, IFKAD2016 addresses three key perspectives towards a new architecture of knowledge, whose interconnections have grown into core drivers for future knowledge work: Big Data, Culture, and Creativity.

Ubiquitous information and communication technologies produce an ever-expanding amount of data, whose value is hard to tap with principles of conventional data processing – but how to design new methods of analysis? Organizational and community culture is a decisive frame for unprejudiced and venturesome intra- and entrepreneurship, which may result in disruptive solutions – but how to display and nurture the volatile facets of culture? Finally, creativity is one of the remaining human faculties that cannot be replaced by computers by now – but how to reach higher levels of creativity and discover new application fields?

To answer these questions IFKAD 2016 provides an open platform for researchers, practitioners, and policy makers to present original approaches, models, and tools. To overcome disciplinary boundaries and enable dynamic discussion, we have designed experimental new conference formats. We hope their application within interactive sessions and co-creation workshops not only helps to boost knowledge exchange among participants, but also gives a fresh and fruitful atmosphere to IFKAD.

We are really honoured for your participation and we look forward to meet you in occasion of IFKAD 2017.

Joerg Rainer Noennig, Peter Schmiedgen, Giovanni Schiuma

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#### Innovation and Digital Marketing in Guadalajara, Mexico

#### Juan Mejía-Trejo\*

Business at Universidad de Guadalajara University Address: Periférico Norte 799 "G-306", Los Belenes, Zapopan, Jalisco, Mexico. C.P. 45100.

#### Gonzalo Maldonado Guzmán

At Universidad de Autónoma de Aguasaclaientes Av. Universidad # 940, Ciudad Universitaria, C.P. 20131,Aguascalientes, Ags. México.

#### José Sánchez-Gutiérrez

Business at University of Guadalajara University Address: Periférico Norte 799 "G-306", Los Belenes, Zapopan, Jalisco, Mexico. C.P. 45100.

\* Corresponding author

#### **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:

- 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 (Iantrmsky, 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

		DIGITAL MARKETING (DM)	
VAR	IND	Question (by the approach: The Firm)	Author(s)
		1At the start of a new project, makes a recognition of their potential competitors	
		2Constantly analyzing their environment, seeking to	
		identify potential competitors, both physical and	Juárez (2012);
		virtual.	Lytraset al.,(2009);
		3Knows and uses its competitive advantage.	Pigneur (2010):
	(1)MAN	4Knows competitive advantages of its natural	Porter (2001)
	(1)///	competitors.	101001 (2001)
		5 Knows competitive advantages of its competitors	
		on the net.	
		of potential sustances	Fernández (2010):
		7 -Seeks to be at the forefront of market trends	Anwar et al $(2010)$ ,
		7. Seeks to be at the forenoint of market dends.	riiwai et al.(2015)
		8 At the start of a new project. estimates the customer	García & Díaz,
		profile.	(2010);
	(2)FCU	9 Knows and satisfies the customer needs according	Hendrix (2014)
(1)WBS		their requirements	fieldinx (2014)
(1) (1)		10Makes a thorough analysis before hiring a new	
		element to the team.	
		111 akes into account the capabilities and skills of team members to agaign a work	$D_{0}$ ft (2007).
	(3)IAN	12 - Knows and apply the values of the organization	Dalt (2007);
		13 - Has a clear mission and helps carry it out every	
		day.	
		14 Has a clear vision and helps carry it out every day.	
		15Takes 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.	
	(4)WAR	17 Takes the role about their product and services as	Treesinthuros, (2012)
		18 Takes the role about their product and convices as	
		promotion	
		19 Takes the role about their product and services are	
		a combination of all mentioned above.	
	(5)FOI	20 Seeks synergy in the conventional marketing	Katlar (2000), Lamb
		activities	et al $(2009)$ ; Lamo
		21 The employees, whose are responsible for	Brondmon(2002):
		receiving payments, schedule visits and survey in the	Wierenga, B. (2008).
	(C) DOI	11eld, also are in charge of these activities on the web.	
	(0)601	visits and survey in the field are able to be replicated	
		in an online environment.	Birogul et al., (2011):
(2)WDI		23 The level of service offered in physical	,
(2) W DI		environment, is the same that is offered by using a web	
		service.	
		24 Involves Outsourcing in their activities.	
			Min et al.(2008)
	(7)OIN		
	(7)011	25 Provides toosl to the Outsourcing to join it in the	
		web activities. (Such as logistics, payment,	Lee (2012):
		promotions, etc).	
		26 The website of the company makes: promotion,	Cuesta (2010)

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

		1.11 0 4 00		
		skills of staff		
		59 Decisions planning increases its availability to		
		the risk		
		60Makes efforts to discover New Market Knowledge	Popadiuk & Wei-	
		Choo (2006)		
		Knowledge	( )	
		inio in edge		
			Shine (at al. 2008).	
		62Makes actions to improve existing processes of	Shipp (et al.,2008);	
		Research & Development + Innovation	McKinsey (2008);	
	(24)RDI	1	OECD (2005)	
		63 - Makes studies about Product Lifecycle	Gale & Chapman	
		os. Makes studies about i foudet Enceycle	(1994)	
		64 Makes extreme to improve the existing design	OECD (2005)	
		04Makes actions to improve the existing design		
		65Employees have influence on their job		
	(25)DSCN	66 - Employees engaged in teams with high degree of	Nicolai (et al., 2011)	
	(23)05011	autonomy		
		autonomy	Chashrough (at al	
		67The strategy is based on Open Innovation concepts		
			2006)	
	()6)IDDFI	68Makes actions to develop prototypes for	Chesbrough (2006);	
	(20)11111	improvement	McKinsey (2008)	
	(27)IPPPIP	69Makes improvement actions to pre-production		
		70Makes to investigate market needs of obsolete		
		products		
		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	Chesbrough (et. al.	
		72 Males to investigate mands and / on mericat	2006);Rogers (1984)	
	(28)MD	/3Makes to investigate needs and / or market		
	(28)MR	changes for early majority		
		/4Makes to investigate needs and / or market		
		changes for late majority		
		/5Makes to investigate needs and / or market		
		changes for laggards		
(7)INPR		76Makes to investigate the onset of a new	Afuah (1997)	
UC		technology		
		77Makes to investigate the term of a technology		
		78Decides actions to improve or introduce new	Lev (2001)	
		forms of marketing		
		79Seeks to be new or improved in the World		
		(Radical Innovation)		
		80Seeks to be new or improved to the Firm		
	(29)NOVY	(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)		
		83 Makes actions to train the staff continuously		
	(30)TRAI	(Incremental Innovation)	OECD (2005); Afuah	
		84 Malzas agtions to innovato in tashnalasy	(1997)	
		or N 1		
		85Makes actions for innovation in production		
		processes	4	
	(31)TOINN	86Makes actions to improve or introduce new		
		products forms		
		8/Makes actions to improve or introduce new forms		
		of service		
		88Makes 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	
		91Detects the projected level of revenues generated	
		by innovation	Shipp (et al. 2008);
		92Detects the projected customer satisfaction level	N
		generated by innovation	McKinsey (2008)
		93Detects the projected sales percentages levels	L (2001)
(8) LOIT	(32)NPSD	generated by innovation	Lev (2001)
1011		94Detects the level of the number of launches of new	
		products/services in a period	
		95Detects the net present value of its portfolio of	McKinsey (2008)
		products/services in the market generated by the	
		innovation	
	(33)PCBOI	96 Use of an indicator like: Innovation income /	
	(2 A) DOLECI	(Investment in Innovation) ?	
	(34)POIFCI	9/Use of an indicator like: innovation identified	
	(35)PCIP	98 Use of an indicator like: Generated Ideas /	
	(55)1 GIK	(Market Knowledge Opportunities xTotal Contributors	
		on Process)?	
(0)	(36)PEOIG	99Use of an indicator like: Number of Approved	Bermúdez-García
(9)	()	Ideas / (Number of Generated Ideas)?	(2010)
IPERF	(37)PIEP	100Use of an indicator like:Number of Correct and	
		Timely Prototype Terminated/(Total Prototyping	
		Approved)?	
	(38)PIGR	101Use of an indicator like: Number of Generated	
		Innovations / (Identified Innovation Opportunities)?	
	(39)PINSI	102. Use of an indicator like: Number of unsuccessful	
		innovations implemented/(Total Innovation)?	G 11 0 X 1 1 00
	(40) <b>P</b> THP	103Does exist any relationship among : university-	Smith & Leydesdorff,
	(A1)JECAD	government- industry, to develop the innovation?	(2010) Lev(2001):Shipp (et
	(41)IFCAP	104Identify intellectual capital dedicated to	al 2008): Nicolai (et
		innovation for its improvement	al., 2011)
		105 Identify the stages of new or improved process	, _ + )
	(42) JEDD	for upgrading	
	(42)IFPP	106Identify attributes of new or improved	
		product/service for its improvement	
		107Iidentify the stages of new or improved form of	
		marketing for improvement	OECD (2005).
		108Identify the stages of new or improved	Chesbrough (2006)
(10)IFE		technology for improvement	chiesereugn (2000)
ED	(43)IFINN	109Identifies the stages of the new or improved	
		structure and functions of the organization to its	
		Improvement	
		incremental) that has given best results	
		111 Jidentify the new or improved value proposition	Bonel (et al. 2003)
	(44)IFV	(benefits costs) for its completion: relation value-price	Doner (et al.,2005)
		112 - The type of leadership that drives innovation is	
		Transactional/Transformational/Passive	Meiía-Treio (et al
	(45)FLINN	113The type of leadership that drives innovation is	2013), Gloet &
	0	Transformational	Samson (2013)
	_	114The type of leadership that drives innovation is	Ì
		Passive	1

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

Table 2.- Pearson's Correlation Coefficient

\*\* 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

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

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

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741a	.550	.490	5.234
2	.925b	.855	.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 vale as the Pearsosn's Correlation Coefficient in our pairwaise 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).

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

Table 5.-ANOVA (a)

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 R2 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 square (please, see Table 4).

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

-						
		Unstan Coeff	dardized ïcients	Standardized Coefficients	4	Sia
Model		В	Std. Error	Beta	ι.	Sig.
1	(Consta	nt) <b>2.375</b>	15.209		.487	.904
1	IVAD	D .679	.351	.704	3.662	.010
	(Consta	nt) <b>-3.658</b>	11.212		7.344	.830
2	IVAD	D .677	.267	.522	5.627	.010
	INPRC	DC .522	.162	.518	3.568	.012

Table 6.-Coefficients by Stepwise Method (A)

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**.

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

Table 7.- Excluded Variables (a)

(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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