

Web 3.0 and Cultural Consumption of Students in Digital Arts, in the Howard-Sheth Behavior Model

José Armando Pérez Crespo^{1*}, Tirtha Prasad Mukhopadhyay²,
^{1,2}University of Guanajuato, México, *Corresponding Author, ¹Orcid
<https://orcid.org/0000-0002-8122-5097>, Email: ¹armando.perez@ugto.mx,
²tirtha@ugto.mx

In this research it was studied patterns of cultural consumption in remote settings, specifically in the face of the pandemic caused by SARS-CoV-2. A selection of university students in digital arts, who for purposes of external training or leisure made use of Web 3.0, were chosen for the survey. We explored aspects of their conviction, conformity and satisfaction with use of said media. Evaluation of the participants' experiences as consumers helps explain how they are subsequently predisposed, directly or indirectly, by Web 3.0 usage in their sociocultural contexts. The survey was based on collection of data from questionnaire on consumer behaviors and preferences proposed by John Howard and Jagdish Sheth. The survey was conducted on three counts based on (a) immediately significant, symbolic and social questions (b) perceptual processes and learning and finally (c) acquisition of levels of satisfaction. The model demonstrates variables and predominant reactions to quality of learning, influence of school environment, open search modalities of information gathering and appropriation of specifications and characteristics of a cultural inventory that included films, 2D and 3D animation products and photography among others.

Key words: *Cultural Consumption, Web 3.0, Art Students, Howard-Sheth*

Introduction

The study is based on a population of students in digital arts at the University of Guanajuato Mexico, who have typical needs of consumption of cultural goods and services, in accordance with complementary and extracurricular requirements associated with their academic training and additionally for entertainment during out of hour use of computer. In the historical context of the global health crisis caused by the presence of SARS-CoV-2; increased navigation on

World Wide Web, necessitated and opened up various alternatives to meet the most diverse needs of these students. Such a reality has been ratified in the following:

Since the outbreak of the pandemic [...] the powerful and dominant companies of the so-called “platform economy” such as Apple, Alphabet (the corporate body that contains Google), Amazon and Facebook have experienced an accelerated growth of their stock prices due to investments made before the outbreak of the pandemic and an increase in the use of virtual spaces. In turn, companies such as Zoom and Netflix are having their heyday due to the increase in number of users who use them as virtual and entertainment media. (Ventrici, Krepki, & Palermo, 2020, p. 3).

Of the aforementioned companies, Netflix stood out in the broadcast of cultural products. It emerged as the leading entertainment service provider during the pandemic raising the number of subscribers to almost 16 million, consequently exercising policies so as not to saturate internet traffic (Murolo, 2020, p. 6). To speak of cultural products is also to consider processes that involve creation, diffusion, acceptance, and consumption of the product in a dynamically evolving market. A whole industry operates in a comprehensive way behind the cultural sphere and creates references that are transmitted across the mass media, but also responds with its innovative design to meet up with capitalist objectives. Furthermore, this industry models behavior, configures the senses, and the perception and reproduction of values (Zapett, 2002, p. 34). With technological advances in communication, the availability of good computer support, mobile devices and availability of information environments on the Internet, users have a wide spectrum of cultural goods to choose from as consumers. Only in Mexico, cultural consumption in the segment of audiovisual media, registered a historically high figure with thirty-six points, i.e., nine percent (National Institute of Geography and Informatics Statistics, 2019). As expressed in the words of Bourdieu (1997), cultural consumption provides a panorama that explains social relations and differences between individuals. This panorama is based in detail on the symbolic value that the consumption of certain artistic and cultural manifestations present, accumulating meaning in terms of a capital of power (Alarcón González, 2017, p. 169). Of this capital, Alarcón adds, in the current context a new group of goods comes from digital technology and massive satellite communication (p. 170).

Traditionally cultural consumption was found to be conditioned by political and economic entities to manipulate preferences and choices for the masses, aligning themselves with the achievement of unsubstantiated satisfiers, and moving away from basic needs (García Canclini, 1993, p. 29). In the age of the Web, cultural consumption adapted to different interactive modalities on the Internet, chronologically leaving version 1.0 behind, at a time when the bulk of the population was not even aware of the existence of the Internet (García Aretio, 2014, p. 1). Then in version 2.0 traditional applications worked with focus on the end user, supported by a network in motion and based on a participation architecture. Examples of Web 2.0 are Google AdSense, Flickr, BitTorrent, Napster, Wikipedia, Blogs, Wikis, Tags and others (Van Der Henst S., 2005). But in Web 3.0, born in 2006 and classified as semantic, it is oriented to



the prominence of computer engines and processors in advanced software, managed in cloud computing, generating actions that discover information according to the profile of the Internet user. As an operational and differentiating example, it can be referred to the search for information related to the term “cat”, the Google browser will give rise to references of all kinds of felines, some of which may not be of interest, so to speak; but with semantic Web 3.0, large undifferentiated feline themes are discarded with other alternatives more appropriate to our interests (Küster Boluda & Hernández Fernández, 2013, p. 106).

How then could we define the consumer of Web 3.0? A Web 3.0 consumer will be an Internet user who produces content almost instantaneously along with photos, videos and comments posted on different platforms in practically real-life cognition time, and causing the consumer to be called a “prosumer” (Cabral, 2020, p. 198): this is theme that Brea expresses in Cabral’s words:

It tends to require the consumer to add to his condition of receiver a simultaneous role of emitter, of producer - and this is what definitely constitutes the receiver in an agency of cognitive work, of provider of the information itself, rather than as the same participant in a collective network of feedback in reciprocal interaction, consume. (2010, p. 91).

John Howard is one of the early theorists of consumer psychology and marketing (Turrado, 2021). Howard’s professional profile has been highlighted as follows: “Professor of Marketing at Columbia University, is a truly complex and multi-disciplined member of the profession. His contributions to the practice of marketing and the teaching of marketing are manifold. ” (Bennett, 1986, p. 75. In a similar way Jagdish Sheth, with his contemporary research on consumer behavior, market research, marketing theory, among others suggests how social aspects are instrumental in how individuals react, evaluate and acquire products from their certain behaviors. We have combined consumption models proposed by both theorists, both affirming the way in which we react to the need of acquiring good service, and from the cultural system, which is further defined below:

We consider the behavior studied in consumer behavior models as one of multiple manifestations of human behavior, behavior that is reflected in the choice of alternatives or options that are presented to the individual. (Vivar, 1991, p. 7)

These choices in theory are affected by a series of external contextual factors, which influence people by creating complex models of consumer behavior. The Howard-Sheth model may be used to broadly analyze the endogenous aspect of the consumption phenomenon (Ibid, p. 98). Therefore, the general objective is that the consumer behavior of a student population in digital arts may be analyzed accordingly to categorize and discover actions of preference and trends under the Howard-Sheth model.

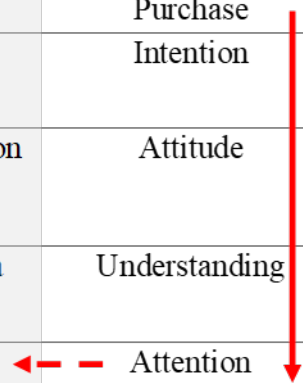
Howard-Sheth Consumption Model

Vivar (p. 98) states that this model takes the consumer's behavior into account from the moment they perceive a stimulus, till their reaction of acceptance or rejection is registered (Howard & Sheth, 1975); For this reason and according to a careful simplification of the model, Table 1 presents four sets of variables. In the two extreme columns we have the input columns – inputs - and the output – outputs. Between both groups are the so-called perceptual and learning constructs. The Howard-Sheth model is based on a general integrative theory of consumer behavior, with a rational behavior of choice by the subject under conditions of incomplete information and with limited capacities (Manzuoli, 2005, pp. 10-11). The theory of the behavior of the buyer in the model, follows a sequence where the consumer receives a stimulus with the appearance of a "new" product. This favors possible effects, creating a change in the mental state with the possibility of modifying behavior in the actions of making acquisitions or purchase. Once the action is consolidated the consumer reflects a change in attitude in towards the product according to the degree of satisfaction experienced (Mora González, Yeh, & Spencer Ruff, 2004, pp. 18-20).

The Howard-Sheth model in its functional description contains variables reflected in inputs. These are registered sequentially in its first group. Inputs are collected from sources of information. In marketing strategy any product is exposed in terms of its physical and visual characteristics, and in terms also of its significant and symbolic stimuli. Additionally, the presence of a third stimulus delivered from the consumer's social environment. In the second sequential group of the model there are two constructs: one called 'perceptual' with variables influenced by psychology and abstraction. This category exposes a certain ambiguity and distortion of the information for the consumer who then provides a permissible adjustment or shift of adequacy to meet up to one's consumption needs. The second construct is identified as learning, which considers consumption goals through an evocation, an alternative evaluation of shopping experiences. Finally, a third group of variables of the model contemplates the purchase or acquisition of the products as outputs. These registers are already informed with intention, attitude and attention, with the possibility of returning to one of the variables of the learning constructs specified at a level of satisfaction that is experienced.

Table 1. *Synthesis of the Howard-Sheth consumption model, inspired by Vivar (1991)*

Inputs	Constructs		Outputs
Data display:	Perceptive:	Learning:	Purchase
Significant and symbolic: Quality, Price, Distinction, Service, Availability	Open search	Intention	Intention
	Ambiguity in stimuli	Trust and evocation	Attitude
Social: College classmates, Like-minded friends, Family, Social networks	Attention	Selection criteria	Understanding
	Perceptual bias	Satisfaction	Attention



Note. The sequence of the prosumer is filtered in terms of variables that can cause bias or a positive attitude in the choice. This experience of product acquisition is reintegrated into learning.

Methodology

The information collected is based on the response of the participation of a population of 173 active learners in the educational program, in a period between the months of January and June 2021. The survey used and its operationalization is based on findings expressed by Ruiz (2002, p. 35). According to Corral (2010), who suggests that there are certain requirements that allow validating the conceptual situation of the subject (Corral, 2010, p. 155), at least one of them deals with the purpose of the buyer or user, which in this case consisted of responding to the offer of cultural products that are broadcast on Web 3.0. Identification of prosumer preferences in the current pandemic context is achieved under the parameters set up in the Howard-Sheth consumption model. Another requirement involved a delimitation of the repertoire of consumption to nineteen cultural products, allowing the levels of preference to be measured on a polytomous scale established by the author, where the items contained opportunities of responses for three options of prosumer frequency: high, medium (neutral) and low. The model followed the sequence designed in the variables of the Howard-Sheth consumption model. In the configuration of the measuring instrument, the items are preceded by an introductory information on the topic of study (Ibid, p. 159), plus the data record regarding the age and gender of participants. The survey was broadcast on an institutional channel and platform for its completion.

Results

The survey registered in its initial sections a female participation of 55% and male participation of 45%; in an age range between 18 and 27 years. The response format contained further request for registering these characters that corresponded to age and sex as would be available during their automated browsing experience (Web 3.0) and in their role as prosumers.

Table 2. *Web 3.0 highlights*

1. The applications are interactive and executable on any device
2. Its technology allows universal access
3. Fast and customizable operation
4. Data managed from "the cloud" allows large storage and distribution capacity
5. Access is easy to dispose of cultural products

Note. Characteristics from highest to lowest identification were noted.

Of the significant and symbolic inputs of the system, the respondents registered five different acquisitional variables, caused by stimulation of the solvency of their needs.

Table 3. *Inputs in the significant and symbolic*

Inputs and convenience level (%)	High	Half	Come down
1. Quality	85.70	13.10	1.20
2. Price	63.70	34.50	1.80
3. Availability	60.00	35.80	4.20
4. Audiovisual presentation of the product	53.00	40.40	6.60
5. Distinction caused by the same product	25.10	55.10	19.80

Similarly, in the inputs considered as social inputs, four variables that influence their decision making were considered.

Table 4. *Social inputs and levels of influence*

Social inputs and levels of influence (%)	High	Half	Come down
1. Colleagues into the training field	58.70	34.90	6.40
2. Friendships outside the training field, related to the profile	39.50	50.00	10.50
3. Family	27.10	45.90	27.00
4. Groups defined in social networks	17.00	43.90	17.00

From the above an underreporting was achieved for the groups defined in social networks, with five entities being of the highest recurrence.

Table 5. *Social networks*

Social networks and preference level (%)	High	Half	Come down
1. YouTube	88.80	7.60	3.60
2. Whatsapp	76.50	19.40	4.10
3. Facebook	75.90	14.70	9.40
4. Teams Microsoft	73.80	22.00	4.20
5. Instagram	68.80	22.90	8.30

For the group of constructs (Table 6), the Howard-Sheth model contemplates a level of information that, if vast, can be ignored, or, on the contrary, it can be used to encourage greater attention. Under other circumstances it may create a perceptual bias, or else a situation where the prosumer would alter the information to make him or her aware of personal style, perception, experiencing and learning.

Table 6. *Constructs*

Perceptual, action and frequency level (%)	High	Half	Come down
1. Open search and tracking of all types of product information	45.30	46.50	8.20
2. Generation of various interpretations of the product	33.70	50.60	15.70
3. Attention to product highlights	35.70	47.30	17.00
4. Experimentation of a brake or bias in buying	15.10	64.50	20.40
Learning, action and frequency level (%)	High	Half	Come down
1. The consumer wants to achieve a particular situation, feels a special intention and motivation	28.50	58.70	12.80
2. It is aware of a high probability of satisfaction, there is trust and a satisfactory evocation of the product	61.80	30.60	7.60
3. It relies on the specifications or characteristics of the product for a better alternative of choice	64.30	32.20	3.50
4. Complete satisfaction	3.50	57.50	39.00

On the other hand, regarding the repertoire of cultural products for consumption, the population had nineteen alternatives to facilitate identification of their levels of preference.

Table 7. *Cultural products*

Cultural product and level of preference (%)	High	Half	Come down
1. Cinema (movie view)	73.00	22.20	4.80
2. 2D animation	65.50	28.10	6.40
3. 3D animation	63.50	28.80	7.70
4. Photography	62.30	32.90	4.80
5. Organizations of cinematography activities (calls, festivals)	54.50	34.70	10.80
6. Research on digital art or related	53.80	39.60	6.60
7. Art festival and exhibition organizations	52.10	37.30	10.60
8. Art contests or related	40.40	41.70	17.90
9. Musical concert	39.30	38.70	22.00
10. Artisan market	32.40	45.90	21.70
11. Book and magazine distributors	26.20	44.00	29.80
12. Infographics	25.70	43.70	30.60
13. Fashion-related activities	24.90	39.10	36.00
14. Sports events	21.90	30.20	47.90
15. Recreation sites bars, clubs, discos or the like	20.80	36.90	42.30
16. Theater activity organizations	19.20	38.90	41.90
17. Dance activity organizations	14.30	28.00	57.70
18. Opera activity organizations	13.20	25.70	61.10
19. Conferences	13.10	37.50	49.40

Once the data for acquisition and consumption of a cultural product in the student community had been completely collected, it was experienced at a predominant level of satisfaction, similar to the values shown in Table 6, point 4 of the learning construct.

Table 8. *Levels of satisfaction in consumption*

Satisfaction level (%)	High	Half	Come down
Improvable	65.50	28.10	6.40

Discussion

The Howard-Sheth consumption model in Web 3.0 for the demand of cultural products, registered in its inputs of significant and symbolic attention, highest frequency of actions for the quality variable; followed by price, availability and presentation of the product respectively.

A greater neutrality was clearly evidenced for the achievement of a personal distinction, derived from the attitude generated by positive qualities of the products. Continuing with inputs in the social sphere, the variables with the greatest influence originate from the peers in the educational field. On the other hand, the categories of external friends and those related to the artistic profile, family members, and groups defined in social networks are presented in a neutral frequency; YouTube was the most preferred network, under a navigational concept that revealed interests.

For the set of perceptual constructs, majority of students registered a high frequency in open and exploratory search for information. But in addition, they displayed neutrals in the generation of different interpretations of the product – namely demonstrating a situation of ambiguity. In the same way in the presence of bias in acquisition they are part of two last trends, they are behaviors set off by the fact of having extensive information on the topics of interest. Regarding learning constructs, students showed a greater inclination to establish themselves well with the characteristics and specifications of the products; followed by the variable related to the satisfactory evocation of the product. Now, in the variable where the prosumer possessed a special intention in acquisition process, the record tends towards a neutrality, similar to the input of the achievement of a distinction in the consumption of a product.

Continuing for the group of outputs and given the complexity of variables that the respondents experienced, nineteen options of cultural products broadcast on Web 3.0 were considered, which implicated intention, attitude, understanding and empathy towards the creators of products, and attention to the product purchased and then experienced during its consumption. Just as the Howard-Sheth model the survey shows its outputs to be organized towards a satisfaction variable.

For the product inventory, the strongest trend is revealed in the consumption of film goods and services, followed by that related to animation in two and three dimensions; photography is in the fourth place, in fifth position is the offer of entities that organize festivals or calls related to the presentation of emerging cinematographic productions; it is observed then, that the trend of cultural consumption has an alignment of interests that are identified by their connection; for example, cinematography includes, in certain cases, animation in two and three dimensions, as well as the use of photographic art for film sets, disciplines inherent to the student of digital arts.

Consequently, the Howard-Sheth model of consumption in Web 3.0, registered a high level of satisfaction in product improvement, despite the preferences registered in quality: the open search for information, and the consideration of specifications and characteristics of the products, which could lead to complete satisfaction that would be guaranteed by the said behavioral antecedents.

Conclusion

The sequence of cultural consumption in respondents, studied for a course of behavior between the months of January to June 2021 (Table 9), presented a significant and symbolic trend of preference for product quality. This was also based on similar influence on the same community of students, namely of those of digital arts. Same course of lifestyle and choices facilitated continuation and generation of constructs that in the perceptual process was found to focus on preference for open search of information, and towards learning on choice based on specifications and characteristics of products, with a purchasing trend focused on categories of movies, animations in two and three dimensions, and photography. Once acquisition and consumption were completed, they led to more insights on factors of attitude, understanding and attention, and a preference or anticipation of experience of incomplete or improvable satisfaction in a learning construction for prosumers of Web 3.0.

Table 9. Student behavior trend in the Howard-Sheth model

Inputs	Constructs		Outputs
Data display:	Perceptive:	Learning:	Purchase
Significant and symbolic: Quality	Open search	Intention	Intention
Price, Distinction, Service, Availability	Ambiguity in stimuli	Trust and evocation	Attitude
Social: College classmates , Like-minded friends, Family, Social networks	Attention	Selection criteria	Understanding
	Perceptual bias	Satisfaction	Attention

Note. The variables of greatest action in digital arts students are recognized, in the months of January to June 2021 for cultural consumption on Web 3.0



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