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Providing a framework for investigating avatar marketing on improving customer satisfaction (case study: Refah chain stores in Tehran province)

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Abstract

Avatars are becoming increasingly popular in contemporary marketing strategies, but their effectiveness for achieving performance outcomes (eg, purchase likelihood) varies greatly in practice. The relevant academic literature is sparse and lacks both definitional consistency and conceptual clarity. Considering the importance of avatar marketing on improving customer satisfaction, this article presents a framework for investigating avatar marketing on improving customer satisfaction (case study: Refah chain stores in Tehran province). The research is practical in terms of purpose and is based on descriptive research method and causal survey method. Also, in terms of data analysis method, descriptive and inferential statistics and SPSS 24 software have been used to test the degree of dependence between variables. Random sampling method has been used to select the sample size, and the statistical sample of this research is 385 employees of Refah chain stores in Tehran province. In this research, a questionnaire has been used, which is a tool for validity, and using Cronbach's alpha. Its value is equal to 87.50% and the reliability and validity of the questionnaire was confirmed. The results obtained from the statistical analysis indicate that all the hypotheses of the research have been accepted.

Keywords: Marketing, customer satisfaction, avatar marketing, chain stores.

1. Introduction:

Advances in computer technology have supported the proliferation of virtual characters, widely known as avatars, which we define as digital entities with humanoid appearance, controlled by a human or software, and capable of interaction [1]. Companies are investing heavily in avatars to better engage and serve their customers, and the use of avatars is expected to increase 241% in the travel and hospitality industry and 187% for consumer goods. In the banking industry, 87 percent of companies are already using some form of avatar or plan to implement it within two years [2]. Even as the use of avatars increases, their effectiveness varies significantly across companies[3]. Avatar marketing has emerged as a serious form of marketing and as a result successful communication in gaming, where a brand's symbol is incorporated into the concept of a console-based or online computer game. An online game can appear as a multi-player role-playing game. A growing trend in gaming is gaming with social impact. These games are created with the intention of conveying a social message through entertainment [4-5]. A site that is not just a 3D visual network, but an alternative lifestyle and a digital world where virtual inhabitants declare their existence by creating and displaying avatars. Second life is a collection of games, social network and e-commerce. Avatars, created and inhabited by their real-world owners, represent residents who are able to present a distinct personal image and identity using an avatar profile. With this article, we aim to provide an integrated theoretical framework of avatars by providing definitional and conceptual clarity, combining academic research and business practices, and providing suggestions that include managerial insights and future research opportunities.

2. Problem statement:

Avatar marketing is what you need to know your customers. In order to make more sales, attract a large audience and grow your business, the most important thing you need to learn is customer avatar design. Because in the world of digital marketing, nothing will be more important than knowing the customer. Knowing the customer's personality almost turns you into a superhero in marketing who can easily read the minds of customers and make them do anything [2]. One of the most important points in the world of marketing is to know that not every audience is suitable for our business [4]. Now that we know what customer avatar is, let's examine this issue with an example. Suppose you are the owner of a professional and high-level digital marketing academy, whose average registration fee for training courses is 8 million Tomans [5]. An improvement in the game could be a virtual social space where people can socialize using a virtual identity, called an avatar identity. An avatar is essentially an icon that represents a virtual person with a user-created identity. Entertainment using virtual communities has grown over the past few years, starting with the Habbo Hotel game that became popular among young adults [6]. Habbo Hotel is a multi-dimensional social virtual collection for teenagers. A conversion rate of approximately 275 Linden dollars per US dollar provides a real credit conversion between the virtual world and the real world of businesses. In this regard, Armani fashion brand launched a version of its flagship store in 2007 [7]. Brands can market real world products to a whole new market with real consumers present in the virtual world where there is much less competition. The methods used can include providing branded products through them and retailing avatar products in a virtual space. According to what has been said and the topic of the research, this article presents a framework for investigating avatar marketing on improving customer satisfaction (case study: Refah chain stores in Tehran province).

3. Necessity of conducting research:

In the world of digital marketing, nothing is more important than knowing the customer. Because all the actions and efforts we make to provide the products and services of an internet business are based on the predictions we have made of the customers' behavior. So, if we have not identified our customers well, all the plans will fail. You all know that without properly understanding the needs, mindset, characteristics and behavior of customers, we cannot expect to increase sales and attract them [3]. An avatar is a small image that is used as a user icon in the comments section of blogs, internet forums, chat rooms, people's profiles, etc. Avatars to some extent express the personality and taste of users in the virtual world of the Internet. Therefore, they can be considered an important means of communication between Internet users [5]. The popularity of avatars is fueled by two macro environmental factors. First, advances in computer/digital technologies (e.g., artificial intelligence) have enabled the development of more complex avatars, and they often appear in three-dimensional (3D) forms, imbued with seemingly distinct personalities, appearances, and behavior patterns, and are generally more attractive. Compared to the previous and simple second versions, the increased use of avatars reflects the growing importance of online service experiences, such as education, gaming, banking and shopping, which companies want to make as convenient and hassle-free as possible for customers. For example, online customers often express frustration when they cannot find relevant information on a website quickly and easily [2]. Avatars can effectively and efficiently provide a solution to this issue. Today's customers also expect faster communications from companies, but instant responses are difficult and costly for companies to obtain through traditional channels (e.g., face-to-face, phone) [7]. Online shopping also reduces the sense of social interaction and personalized customer advice, a concern that avatars can help address [8]. Finally, recent advances in technology enable avatars to offer a wide

range of benefits to companies, as “avatars capable of complex and interactive conversations with customers will exponentially increase the amount of data that businesses can access.” [9]. to be, they increase. Avatars can potentially know if [customers] are bored or happy in real time and know the exact moment someone is disconnected. Therefore, in this research, we investigate avatar marketing on improving customer satisfaction (case study: Refah chain stores in Tehran province).

4. Theoretical foundations of research:

4.1. The concept of Avatar:

Although we can easily list the benefits of avatars, there is no strong agreement on their precise definition. Additionally, academics have used several terms interchangeably to refer to avatars, such as automated shopping assistants, chatbots, virtual customer service agents, embodied conversational agents, or virtual/digital assistants [10]. Ambiguity surrounding the definition of avatars makes it difficult for researchers to compare empirical results or draw meaningful conclusions across studies. To advance scientific knowledge, we need a precise definition that clearly delineates the boundaries of the construct. In this section, we examine different ways of defining avatars, identify and critically evaluate some key elements of the definition, and present a new definition that emerges from this analysis [11].

Anthropomorphic Appearance

One aspect of the definition of avatars where there is no consensus is whether avatars should have an anthropomorphic appearance or not. Anthropomorphism refers to "the degree to which an image appears human." In previous academic research, 70% of the articles consider anthropomorphic or human-like appearance as a necessary condition for the conceptual definition of an avatar. This element is important because the degree of humanness of an avatar provides indications of its social presence [5]. Research shows that the more

human an avatar is perceived to be, the more authentic and competent it appears, so that “a person may be represented by a very accurate and realistic avatar of a spruce tree. Although this avatar is realistic, other users may be less likely to attribute social potential to it—and less likely to relate to it—because it is not humanoid. Research shows that how well we perceive humanization affects our expectations of certain behaviors and our willingness to interact. People's behavior with something that looks human is different from inanimate objects [12]. For example, Nithiri in Avatar is not a human, but because he has a humanoid appearance, the other characters interact with him as a human. Knowledge about how to interact with other humans is generally learned early in life and is more easily accessible in people's memory than knowledge about how to interact with inanimate objects. According to the paradigm of computers as social actors, people tend to treat computer technology that exhibits human characteristics as a social actor and apply similar social rules to it during interactions, despite being fully aware that they are dealing with a subject. have. device The appearance of an anthropomorphic presence creates simple social contexts in people, which in turn induce cognitive, emotional, and social responses during interaction with technology [13]. Therefore, we consider anthropomorphic appearance as an important and necessary element in the conceptual definition of digital avatars, as people interact differently with what they perceive to be more “human”. Therefore, this requirement excludes inanimate objects and brands, as well as voice-only digital assistants that do not have a humanoid appearance. Interactivity Interactivity refers to "the degree to which people perceive that communication allows them to feel that they can simultaneously and mutually interact with the communicator, have control." [14]. In defining interaction as another critical requirement for digital avatars, we specifically refer to the ability to engage in two-way interactions that may be verbal (voice) or non-verbal (text, animation). Previous research has established

three dimensions of engagement: (1) active user control, or the ability to participate in and influence communication; (2) bilateral interactions; and (3) concurrency. Approximately 78% of the research we reviewed included interaction as an element in the conceptual definition of avatars [15]. Some other researchers similarly do not consider interaction as a necessary element of digital avatars. However, most researchers focus on interactive avatars and find that they can increase customer satisfaction with a website or product, credibility, or advocacy purposes. However, designing a truly interactive avatar that can participate in synchronous communication is not an easy task: “Natural language conversation in chatbots represents a low threshold for users to access data and services [16]. However, while conversational interfaces are truly intuitive when applied to interactions between people, conversations between humans and automated conversational agents are more challenging. The interactive requirement excludes entities such as “self avatars” in clothing stores that do not provide two-way communication, as well as any instance of asynchronous content, such as a speech delivered as a pre-recorded video of a trainer, or a standard greeting [17-19]. From a chatbot that cannot provide personal interactions with each user. However, when there is true two-way interaction, it can satisfy both pleasurable (e.g., entertainment while shopping on a website) and utility (e.g., efficiently finding a solution to a problem on the website) needs of customers. Therefore, we consider it as a requirement for digital avatars [20].

4.2. Typology of avatar design:

Using this derived definition of avatars, we propose a typology of avatar design. This typology allows academics and managers to isolate the elements that make an avatar more or less effective for specific purposes, such as presenting product information, answering customer process questions, etc. Additionally, this

typology provides a general organizing framework for thinking about, making design/implementation decisions about, and researching avatars [21-23]. Different design elements cause avatars to differ in appearance and visual behavior during human interaction. All design elements affect the shape realism and behavioral realism of avatars [24]. Form realism refers to the degree to which an avatar's form appears human, while behavioral realism refers to the degree to which it behaves like a human in the physical world. Some researchers argue that behavioral realism is more important than formal realism, but both formal and behavioral realism are associated with greater avatar usefulness in most contexts [25]. Your business has its own personality, which can be associated with factors such as your initial vision when establishing the business, the core values of your company, or simply the idea that the product and service you sell is needed by people [26]. To attract audience, it is not enough to tell your story [27]. You should create a narrative around your customer as the main character, with your product or service as side characters next to it and helping them to achieve their goals. In other words, it is your customer's motivation and desire that shapes your story, not the other way around [28]. By using avatars to represent your business's target demographic, you can find people who align with your business ideals and want what you have to offer. It's not for everyone, just those who are more likely to be attracted to your story and help make it a success [29]. This leads to the basic rule of marketing: you can't please everyone and have a product that suits everyone, so focus on those who need what you provide. Just as great novels have several main characters, your business will likely have many avatars serving different parts of the business. In this way, you can effectively personalize your marketing messages. For example, if you are a developer of a time tracking app, you can have a freelancer avatar or a small business owner avatar [30]. Although both produce similar products, a freelancer's goal can be accurate time

measurement for fair payments. If the owner of a small business can effectively manage the time of his employees. Using this knowledge, you can create custom themes and buttons for emails, blogs, and social media ads for each avatar [31]. The final and important thing is that an avatar should be the litmus test of your messages (a chemistry test to measure the acidity or alkalinity of a solution or liquid) so that you can be sure that whatever you create, from a simple blog post So that a perfect product matches your target population. Now that you have a basic understanding of customer avatars and why you need them, here are five basic steps to creating them [32].

4.3. Avatar Metaverse:

Meta has designed this technology through artificial intelligence. This company studies the physical movements of a real person and then trains a model using these studies. This results in the model accurately predicting shoulder and elbow positions based on the placement of your headset and controller [33]. Accordingly, Metaverse avatars will be even more accurate and visible than other avatars. As we explained in the above section, the big advantage of Avatar Metaverse is its applications. Although not many details are available right now, it's safe to say that you can use these avatars in a variety of applications. Whenever you enter another virtual environment, your avatar enters that environment with you [34-37]. These avatars apply to all types of supported applications and environments, and we expect the Metaverse to become an ever-expanding flexible network. Choosing a central avatar is not only more attractive, but this integration also makes the processes easier for you. If you are one of those who do not use virtual space, you may be surprised to hear this information. And ask yourself, what is the use of these metaverse avatars for me? A recent announcement by Meta CEO Mark Zuckerberg is a good answer to that question, as he says that Meta avatars will now be extended to Facebook,

Messenger, and Instagram [38-40]. So if you are someone who likes to be active on social media, you can use these avatars for posts, stories and even as your profile picture. Avatars have also expanded to be used in other contexts. The newly released avatars will also have the ability to add cochlear implants and other hearing aids. In addition, wheelchair avatars will also be visible through the social media of the meta ecosystem [41].

5. Research Hypotheses

- **Hypothesis H1:** As the realism of the avatar shape increases, customers' expectations of its behavioral realism also increase.
- **Hypothesis H2:** Differences between avatar shape and behavioral realism have asymmetric effects, such that customers experience positive (negative) disapproval when the avatar's behavioral realism is more (less) than its shape realism.
- **Hypothesis H3:** When avatar form realism exceeds its behavioral realism, it has a positive effect on performance outcomes through customers' emotional responses.
- **Hypothesis H4:** When the avatar's behavioral realism exceeds its form realism, it has a positive effect on performance outcomes through cognitive responses.
- **Hypothesis H5:** The positive effect of avatar realism on customers' behavioral realism expectations is stronger when performance risk is higher.
- **Hypothesis H6:** When avatar form realism exceeds its behavioral realism, if performance risk is higher, its positive effect on customers' emotional responses will be weakened.
- **Hypothesis H7:** When the realism of the avatar form exceeds its behavioral realism, if the performance risk is higher, its negative effects on the cognitive and social responses of customers will be strengthened.

- **Hypothesis H8:** When the behavioral realism of the avatar exceeds the realism of its form, if the performance risk is higher, its positive effects on the cognitive and social responses of customers will be stronger.
- **Hypothesis H9:** By increasing form realism, relative to behavioral realism, the use of mobile devices (compared to fixed devices) strengthens the positive effect of avatars on customers' emotional responses.
- **Hypothesis H10:** By increasing behavioral realism, relative to form realism, the use of mobile devices (compared to fixed devices) strengthens the positive effect of avatars on customers' social responses.
- **Hypothesis H11:** The effects of customers' cognitive, emotional and social responses on performance outcomes are moderated by the relationship stage, so that the effects of cognitive responses are enhanced in the exploration stage but suppressed in the construction and maturity stages.

6. Research Method:

Statistical population: The statistical population in this research includes the employees of Refah chain stores in Tehran province.

The sample size formulas and procedures used for categorical data are very similar, but some variations do exist. Since the data are qualitatively and the number of statistical community is unlimited, so the sample size calculation formula is as follows:

$$n = \frac{Z_{\alpha/2}^2 p_0 (1-p_0)}{\epsilon^2} \quad (1)$$

In this study, researcher has set the alpha level a priori at .05, plans to use a proportional variable, has set the level of acceptable error at 5%, and has estimated the standard deviation of the scale as .5. Cochran's sample size formula for categorical data and an example of its use is presented here along with explanations as to how these decisions were made.

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384.16 \quad (2)$$

Where $Z_{\alpha/2}$ = value for selected alpha level of .025 in each tail = 1.96.

(The alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error).

Where (p)(q) = estimate of variance = .25.

(Maximum possible proportion (.5) *1-Maximum possible proportion (.5) produces maximum possible sample size).

Where ϵ = acceptable margin of error for proportion being estimated = .1

4. Analysis of information

SPSS software was used for statistical analysis and one-sample t-test was used to analyze the statistical hypotheses. We used SPSS 24 to analyze the data. In following the results of test hypotheses are offered:

Testing Hypothesis H1. As the realism of the avatar shape increases, customers' expectations of its behavioral realism also increase.

The results of SPSS are shown below:

Table. 1. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H1	385	6.8443	1.01973	.17362

Table. 2. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H1	16.844	384	.000	1.4721	1.09443	1.6832

Testing Hypothesis H2. Differences between avatar shape and behavioral realism have asymmetric effects, such that customers experience positive

(negative) disapproval when the avatar's behavioral realism is more (less) than its shape realism.

The results of SPSS are shown below:

Table. 3. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H2	385	6.8426	1.0964	.17031

Table. 4. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H2	16.8443	384	.000	1.6843	1.6385	2.0591

Testing Hypothesis H3. When avatar form realism exceeds its behavioral realism, it has a positive effect on performance outcomes through customers' emotional responses.

The results of SPSS are shown below:

Table. 5. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H3	385	6.7392	1.0793	.19831

Table. 6. One-Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H3	15.0946	384	.000	1.7931	1.0588	1.7692

Testing Hypothesis H4. When the avatar's behavioral realism exceeds its form realism, it has a positive effect on performance outcomes through cognitive responses.

The results of SPSS are shown below:

Table. 7. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H4	385	6.7593	1.0658	.19643

Table. 8. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H4	17.7443	384	.000	1.9653	1.6883	1.9752

Testing Hypothesis H5. The positive effect of avatar realism on customers' behavioral realism expectations is stronger when performance risk is higher.

The results of SPSS are shown below:

Table. 9. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H5	385	6.2250	1.01915	.10191

Table. 10. One-Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H5	12.020	384	.000	1.22500	1.0228	1.4272

Testing Hypothesis H6. When avatar form realism exceeds its behavioral realism, if performance risk is higher, its positive effect on customers' emotional responses will be weakened.

The results of SPSS are shown below:

Table. 11. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H6	385	.7021	.29832	.17476

Table. 12. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H6	6.1134	384	.000	.25701	.0982	.1105

Testing Hypothesis H7. When the realism of the avatar form exceeds its behavioral realism, if the performance risk is higher, its negative effects on the cognitive and social responses of customers will be strengthened.

The results of SPSS are shown below:

Table. 13. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H7	385	.73089	.21947	.29842

Table. 14. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H7	6.1903	384	.000	.28701	.1985	.2209

Testing Hypothesis H8. When the behavioral realism of the avatar exceeds the realism of its form, if the performance risk is higher, its positive effects on the cognitive and social responses of customers will be stronger.

The results of SPSS are shown below:

Table. 15. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H8	385	.6638	.2095	.1949

Table. 16. One-Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H8	6.8651	384	.000	.2986	.1194	.1946

Testing Hypothesis H9. By increasing form realism, relative to behavioral realism, the use of mobile devices (compared to fixed devices) strengthens the positive effect of avatars on customers' emotional responses.

The results of SPSS are shown below:

Table. 17. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H9	385	.6987	.2094	.1899

Table. 18. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H9	6.9473	384	.000	.2097	.1798	.2103

Testing Hypothesis H10. By increasing behavioral realism, relative to form realism, the use of mobile devices (compared to fixed devices) strengthens the positive effect of avatars on customers' social responses.

The results of SPSS are shown below:

Table. 19. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H10	385	.7302	.2309	.1892

Table. 20. One-Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H10	6.7932	384	.000	.2806	.1098	.1793

Testing Hypothesis H11. The effects of customers' cognitive, emotional and social responses on performance outcomes are moderated by the relationship stage, so that the effects of cognitive responses are enhanced in the exploration stage but suppressed in the construction and maturity stages.

The results of SPSS are shown below:

Table. 21. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H11	385	.7092	.2193	.1993

Table. 22. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H11	6.7936	384	.000	.2198	.1983	.2445

Conclusion:

The rapid increase in the use of avatars has been fueled by two main factors: advances in digital technologies and increased reliance on online experiences among consumers and companies. The use of avatars is expected to grow by 35% annually. However, the effectiveness of avatars remains unclear, so we provide an integrated theoretical framework to provide definitional and conceptual clarity, combine academic research and business practices a future research agenda. The proposed definition of avatars as digital entities with humanoid appearance, controlled by humans or software, with the ability to interact, helps us to develop a design typology, which in turn gives academics and managers insight into how to isolate the elements that avatars represent. gives more or less effective for certain purposes. We define the academic literature and business practices by providing a realism-behavioural taxonomy, which in turn enables us to derive propositions about the effectiveness of avatars in marketing. The level of alignment between avatar form realism and behavioral realism can provide a brief explanation of when an avatar is more effective, given several possible cases. With insights gained from examining avatar fundamentals, existing research, and business practices, we develop an integrated framework of avatar performance that provides theoretical insights, research propositions, managerial implications, and future research directions.

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