



**أثر ابعاد سلوك الارتباط الرقمي للعميل علي استدعاء العلامة
دراسة تطبيقية علي مجتمع الموضة الافتراضي**

**The Impact of Digital Consumer Engagement
Dimensions on Brand Recall: An Empirical
Study on Online Fashion Community**

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Abstract

This study aims to investigate the impact of digital consumer engagement (DCE) three dimensions: cognitive, emotional, and behavioral on brand recall (BR). The descriptive-exploratory approach and the quantitative research method were used in the study. The convenience sample of 586 online fashion community followers is applied through E-questionnaire.

The findings revealed that cognitive and behavioral dimensions have a positive influence on BR, but emotional dimension has no significant influence on BR. Furthermore, there are significant differences among followers' perceptions toward cognitive dimension, but there are no significant differences toward emotional and behavioral dimensions according to their gender. Finally, theoretical and practical implications were discussed, as well as future research directions.

Keywords: Digital consumer engagement, Cognitive, Emotional, Behavioral, Brand recall, Online fashion community followers.

المخلص

هدفت هذه الدراسة الي اختبار اثر ثلاثة ابعاد لسلوك الارتباط الرقمي للعميل: الادراكي والعاطفي والسلوكي علي استدعاء العلامة التجارية. استخدمت الدراسة الاسلوب الكمي والمنهج الوصفي التحليلي. وتتكون عينه الدراسة من 586 متابع من متابعي العلامات التجاريه للموضه علي مواقع التواصل الاجتماعي من خلال الاعتماد علي الاستبيان الإلكتروني.

وتشير النتائج الي وجود تأثير معنوي لكل من الابعاد الادراكيه والسلوكيه علي استدعاء العلامه في حين لا يوجد تأثير معنوي للبعد العاطفي علي استدعاء العلامه. كما توصلت الدراسة الي وجود اختلافات معنويه بين اتجاهات المتابعين نحو البعد الادراكي في حين عدم وجود اختلافات معنويه نحو الابعاد السلوكيه والعاطفيه طبقا للنوع. وقد قدمت الدراسة عددا من المساهمات علي المستويين النظري والتطبيقي بالاضافه لتقديم عددا من التوصيات للبحوث المستقبلية.

الكلمات المفتاحية: سلوك الارتباط الرقمي للعميل, الادراكي, العاطفي, السلوكي, استدعاء العلامه, متابعي الموضه علي مواقع التواصل الاجتماعي.

1.The research Framework

1.1 Introduction

Rapid advances in information technology have resulted in the emergence of a plethora of social media, which have altered how businesses interact and create value for/with their customers (Cheng et al., 2021). Similarly, the field of marketing has changed its approach to customer management, transitioning from a transactional to a relational era, and now adapting to the current era of engagement for building competitive tactics utilizing the power of social media platforms such as Facebook, Twitter, LinkedIn, YouTube, and others (Obilo et al., 2021). Businesses place a high value on such platforms, particularly social media-based brand communities (Abdelkader and Ebrahim, 2021). In line with recent research, there are 5.3 billion internet users worldwide, accounting for 65.7 percent of the world's population. In total, 4.95 billion people, or 61.4 percent of the world's population, used social media (Statista, 2023). Previously, only 28% of businesses used social media. On average, 93.79% of businesses now do. Facebook has emerged as the largest social networking site, with 90 million businesses using Facebook Pages, Groups, and Messenger (Statista, 2023).

Due to its ability to influence behavior, consumer engagement with brands on social media has attracted more attention lately. Executives hope to inspire and elicit voluntary interaction with brand-related social media content, as this type of interaction is regarded as an essential part of online strategy and performance (Schivinski, 2021). Consumers can use social media to create an online "soapbox" where they can share their personal product and service ratings. Scholars such as have emphasized the importance of developing strategies to encourage customers' social media brand engagement (Wan Za'aba, 2022). Customers employ social media to investigate products as well as interact with brands and peers, to whom they deliver valuable brand information (Santiago et al., 2022). This rich exchange of information makes room for an ongoing branding co-creation process, which affects consumer purchasing decisions (Borges-Tiago et al., 2021). Furthermore, digital consumer engagement (DCE) is a multifaceted concept that addresses the cognitive, emotional, and behavioral aspects of customers that emerge during particular brand interactions (Schivinski et al., 2021). Without taking cognitive and emotional engagement into account, behavioral engagement on social media is an important performance metric

of the efficacy of marketing communications in the context of the number of likes, shares, subscribers, and comments (Abdelkader and Ebrahim, 2021).

Consumer engagement has significant economic and social benefits, according to marketing researchers and practitioners (Obilo et al., 2021), including increasing product sales, increasing brand awareness, improving brand image, lowering marketing costs, and increasing brand loyalty (Bai and Yan, 2020). As a result, it is critical to examine customer engagement in social media sites as a three-dimensional psychological state.

Brands actively utilize social media to communicate with customers. Social media promised direct access to a receptive consumer base willing to engage and converse with brands. (Moran et al., 2020). According to Statista (2023), 70% of marketers rank brand awareness as their top social media goal, because People choose brands based on their awareness and consciousness before making actual purchase. The greater the range of brands extended, the greater the company's awareness of how their consumers view the extended brand (Vanitha and Subramanian, 2020).

Managers must understand how well the consumer is aware of the brand in order to understand its position and importance in the minds of target consumers. Brand awareness is the degree to which a consumer is aware of a brand and plays an important role in the decision-making process (Schivinski et al., 2021). This awareness contains two conceptual properties: brand recall and brand recognition (Schivinski et al., 2021).

Customers instantly recall a brand/product as a result of advertising and marketing efforts, leading to product purchase. Brand recall, which illustrates brand awareness, has a significant positive impact on actual purchase behavior (Gesundo et al., 2022). Brand recall refers to "the ability of consumers to remember a brand through memory when given a product category" (Gesundo et al., 2022). As a result, the organization's goal is to raise market awareness of its product and service offerings while also increasing purchase intent. To sum up, this study aims to examine the impact of customer psychological engagement (cognitive, emotional, and behavioral) on brand recall in order to offer marketers with effective instruments to promote customer engagement and reinforce interactions between customers for accelerating brand recall. Furthermore, it is one of the first empirical studies to investigate top fashion brands in the Egyptian

context in the best of the researcher knowledge. Finally, it is the first study to examine gender differences in user perceptions toward DCE.

1.2 Literature Review and Hypotheses Development

The researcher can display the most important previous studies related to the research objective. This section displays literatures concerned with The Relationship between DCE Dimensions and Brand Recall as follows:

Shojaee & Azman, 2013

The purpose of this study is to evaluate the factors affecting on brand awareness through social media in Malaysia. Results indicate customer engagement, brand exposure, and electronic-word-of-mouth have positive correlation with brand awareness in the context of social media and the most effective factor is customer engagement.

Zaglia, 2013

This study aims to investigate the existence, functionality and different types of brand communities within social networks. The findings contribute to theory by combining two separate research streams. Due to the advantages of social networks, brand management is now able to implement brand communities with less time and financial effort; however, choosing the appropriate brand community type, cultivating consumers' interaction, and staying tuned to this social engagement are critical factors to gain anticipated brand outcomes.

Kuvykaite & Piligrimiene, 2014

This article deals with identification of company-related and consumer-related factors that influence consumer brand engagement; it defines important constructs of consumer engagement behavior and objects of consumer brand engagement. The results indicate what kind of consumers and how they should be engaged into value creation, seeking for higher brand equity.

Chahal & Rani, 2017

The purpose of this paper is threefold: first, to develop and measure customer engagement scale in context to social media (SM); second, to elucidate the variables that impact customers' brand engagement on SM and

its impact in building customer-based brand equity; and finally, to examine the moderating role of trust in SM brand engagement and brand equity relationship. The paper outcomes indicate SM brand engagement as a bi-dimensional construct comprising information interest and personal interest. Both social factors and consumer-based factors significantly influence customers' SM brand engagement. Specifically, results depicted that tie-strength and social identity Customers' SM brand engagement in comparison to other factors.

Hepola et al., 2017

This study examines the effect of sensory brand experience and involvement on brand equity directly and indirectly through cognitive, emotional and behavioral consumer brand engagement. The empirical findings suggest that both involvement and sensory brand experience are directly related to the three facets of customer brand engagement (CBE). Further, involvement, sensory brand experience and CBE jointly explain more than 50 per cent of the variance in brand equity. In addition, the results reveal that emotional engagement was the most influential factor in determining consumers' overall engagement level.

De Vries et al., 2017

The present research identifies different motivations for engaging in different brand-related activities on social media. We provide evidence indicating that the motivations of self-expression and socializing play primary roles in leading people to participate in highly engaging activities (i.e., creating one's own content online) and in moderately engaging activities (i.e., collaborating with others to contribute to content).

Rather et al., 2018

The main goal of this study is to analyze effects of customer brand engagement on brand equity and brand loyalty towards hospitality brands. The results indicated significant and positive interrelationships among customer brand engagement, brand loyalty and brand equity. These findings can aid managers in determining which factors/dimensions to consider when planning, developing strategies, and making informed decision to strengthen brand loyalty and brand equity in building customer brand relationships towards hospitality.

Shahid & Iqbal, 2018

Our problem statement in extension to this research model was mediating satisfaction among brand customer engagement behavior and brand equity, brand attachment, brand loyalty and brand trust. This research shall benefit businesses that are concerned about retaining and attracting customers by modifying company customer relationship.

Xi & Hamari, 2019

In this study, we investigate the relationship between gamification features, brand engagement and brand equity among consumers (N=824) from both of Xiaomi and Huawei online brand communities through a psychometric survey. Results imply that there is a positive chain relationship between gamification, brand engagement and brand equity, and that; gamification appears to be an effective tool for brand management.

Machado et al., 2019

The purpose of this paper is to deepen understanding of the relationship between brand gender and CBBE by analyzing the mediating role of consumer–brand engagement (CBE) and brand love (BL) on this relationship. Results indicate understanding of the relationship between brand gender and consumer-based brand equity (CBBE) by analyzing the mediating role of consumer–brand engagement (CBE) and brand love (BL) on this relationship. This study advances prior work by showing that brand gender has an indirect and relevant impact on CBBE through BL and CBE.

Mishra, 2019

The purpose of this paper is to investigate the effect of brand's social media marketing efforts and individual's online social interaction propensity on various levels of consumers' engagement with brand-related social media content. Additionally, the subsequent effects of consumers' engagement with brand-related social media content on overall brand equity and purchase intention have also been examined. The results found the uniform effect of the social media marketing efforts and individual's online social interaction propensity on two levels of consumers' social media engagement, but the effect on third level has been found only from the individual's online social interaction propensity. Subsequent effects on brand equity and purchase intention were also found varying across the engagement levels.

Vanitha and Subramanian, 2020

The purpose of this article is to find the factors of brand awareness and the relationship with customer engagement. The results found that there is a positive relationship between brand awareness and customer engagement.

Algharabat et al., 2020

The purpose of this research is concerned with identifying and testing the role of three main predictors: consumer involvement, consumer participation and self-expressive brand on the customer brand engagement (CBE). Results indicate that there is no study that has investigated the main predictors of customer brand engagement (CBE) and its consequences over developing context by proposing and testing the association between the antecedents of CBE with the dimensions of CBE, which in turn affect the dimensions of CBBE.

Schivinski et al., 2021

This research examines whether perceptions of brand equity influence consumers' propensity to engage with brand-related content on social media. By combining two frameworks: consumer-based brand equity (CBBE) and consumers' online brand-related activities (COBRAs) we develop two conceptual models and empirically test their validity. The results found that consumer-based brand equity positively drives consumers' behavioral engagement with brands on social media. From the micro-relationship perspective, findings indicate that brand associations influence the consumption and contribution of brand-related social media content, while brand loyalty additionally influences the creation of brand-related social media content. Finally, brand quality was found to negatively affect consumers' behavioral engagement: the lower the perceived quality, the more individuals consume and contribute brand-related content to social media.

Verma, 2021

This study investigates if brand engagement blossoms in brand love and the combined effect of brand engagement and brand love upon overall brand equity and purchase intention. This paper confirms that brand love and brand engagement are second order constructs and important brand mix

elements. Brand engagement and brand love relationship is moderated by usage and gender.

Analysis of previous Studies:-

(Verma, 2021; Rather et al., 2018; Algharabat et al., 2020; Kuvykaite & Piligrimiene, 2014; de vries et al., 2017; Zaglia, 2013) revealed that customer engagement with brands affects brand recall (BR) considering one of the dimensions of brand awareness (brand recall and brand recognition) (Khurram et al., 2018). Also, brand awareness is one of the dimensions of brand equity (brand awareness, brand associations, brand image and brand loyalty) (He, 2016; Algharabat et al., 2020).

Besides, (Shojaee & Azman, 2013) added brand exposure and electronic word of mouth to customer engagement and proved that customer engagement is the most effective factor on brand awareness.

Furthermore, some other studies discussed the mediating role of customer brand engagement on brand equity (Machado et al., 2019; Hepola et al., 2017; Xi and Hamari, 2019).

While, (Shahid & Iqbal, 2018) verified the mediating role of satisfaction between brand customer engagement and brand equity, brand attachment, brand loyalty and brand trust.

Moreover, (Mishra, 2019) confirmed that social media marketing efforts and individual's online social interaction affect levels of customers' social media engagement that have subsequent effects on brand equity and purchase intention.

Additionally, (Chahal and Rani, 2017) mentioned that trust moderates the relationship customer's engagement in the context to social media and brand equity .

Although, previous studies have confirmed the positive relationship between DCE and BR, the researcher found that (Vanitha and Subramanian, 2020) mentioned that brand awareness affects customer engagement. Also, (Schivinski et al., 2021) pointed out that customer-based brand equity positively drives customer's engagement with brands on social media .

Eventually, the researcher agrees with the studies that verified the positive effect of DCE dimensions on BR. Therefore, the researcher proposed the following hypothesis :

H1: DCE dimensions have a positive direct effect on BR.

In the line with previous marketing literature that illustrated the relationship between DCE dimensions and brand recall, various studies mentioned that DCE has three dimensions: cognitive, emotional, and behavioral (Kuvykaite and Piligrimiene, 2014; Hepola et al., 2017; Xi and Hamari, 2019; & Schivinski et al., 2021). As a result, the researcher proposed the following sub-hypotheses:

H1.1: Cognitive items have a positive direct effect on BR.

H1.2: Emotional items have a positive direct effect on BR.

H1.3: Behavioral items have a positive direct effect on BR.

Compared to Previous Studies, This Study:

- Investigates the impact of digital customer engagement dimensions on brand recall.
- This study is one of the first studies that investigate top fashion brands topic (as an empirical investigation) in Arab countries in the best of the researcher knowledge.
- Investigates the nature of differences among users' perceptions toward DCE and its dimensions according to their gender.

1.3 Research Problem

Based on literature review the problem of this study is limited to two main questions:

- 1- To what extent digital consumer engagement dimensions (cognitive, emotional, and behavioral) affects brand recall in the online fashion community?**

This question is divided into a group of sub-questions:

- To what extent cognitive dimension affects brand recall in the online fashion community?
- To what extent emotional dimension affects brand recall in the online fashion community?
- To what extent behavioral dimension affects brand recall in the online fashion community?

2- Are there differences among users' perceptions toward digital customer engagement and its dimensions according to gender - in the online fashion community?

1.4 Research objectives

Based on research problem this research aims to two main objectives:

1- Investigate the relationship between DCE dimensions and brand recall.

This objective is divided into a group of sub- objectives:

- Investigate the relationship between cognitive dimension and brand recall.
 - Investigate the relationship between emotional dimension and brand recall.
 - Investigate the relationship between behavioral dimension and brand recall.
- 2- Investigate the differences among users' perceptions toward DCE and its dimensions according to gender.**

1.5 Research Significance

1.5.1 Scientific Significance:

The academic significance of this research stems from its use of a set of variables that are relatively new in the marketing management literature, such as digital consumer engagement and its effect on brand recall. Furthermore, this study examined DCE dimensions: cognitive, emotional, and behavioral as well as their impact on brand recall. Moreover, this study is useful for

investigating the measures associated with these concepts. As a result, this study reflects the researcher's attempt to identify the role of these variables in enhancing customer engagement with fashion brands on social media pages related to these brands in order to boost brand recalling and to supplement the academic effort in this regard.

1.5.2 Practical Significance:

The practical significance of this study can be seen in its application to the fashion industry, which is one of the most important economic industries. In addition, due to its key position in current and competitive challenges, fashion has become the most popular purchase category (Thomas, 2018).

It is expected that this research will contribute to the applied field of companies by clarifying how the content is designed, how to determine market segmentation, and the factors influencing the increase in customer engagement with this content in order to accelerate the recalling of the brand in the mind of the customer as a primary goal for companies, particularly during the Corona pandemic period, which encouraged various forms of online shopping, either through social media or through traditional channels.

The COVID-19 pandemic-imposed lockdowns on consumers and businesses alike, social networks have become an integral part of people's daily lives, significantly altering how businesses conduct business, promote their products, and interact with customers. Since the COVID-19 pandemic, the role of these networks has grown, prompting businesses and consumers to investigate the potential of social media more thoroughly (Santiago et al., 2022).

1.6 Research Hypotheses

Based on research problem and research objectives, research has two main hypotheses as follow:

H1. DCE dimensions have a significant effect on brand recall in the online fashion community.

This hypothesis is divided into the following sub- hypotheses;

H2.1. Cognitive items have a significant effect on brand recall in the online fashion community.

H2.2. Emotional items have a significant effect on brand recall in the online fashion community.

H2.3. Behavioral items have a significant effect on brand recall in the online fashion community.

H2. There are significant differences among users' perceptions toward DCE and its dimensions according to gender in the online fashion community.

1.7 Research limitations

- Objective: The concept of these variables (DCE, and brand recall) will be the focus of this study.
- Time limitations: This study will be carried out from 2021 to 2023.
- Place limitations: This research will be conducted using an online survey via social media platforms.
- Human limitations: This study will be conducted on social media followers or users.

1.8 Research Plan

- Study Framework
- Theoretical Framework
- Research Methodology
- Data Analysis and Research Results
- Discussions, Implications, and Conclusion

2. Theoretical Framework

The purpose of this chapter is to review the literature supporting the conceptual framework of this study. At the beginning, the researcher reviews the concepts related to DCE in marketing literature, then the

literature associated with brand recall. The current study addresses study variables as follows:

2.1 Digital Consumer Engagement (DCE)

This part addresses everything related to DCE in marketing studies, such as engagement, customer engagement, and digital consumer engagement, as well as its characteristics, what influences DCE, definitions, dimensions, and antecedents and consequences.

2.1.1 Engagement

According to the Oxford Dictionary, the verb "to engage" carries various interpretations. To employ or hire, to hold fast, to bind by a contract, to come into battle, and to participate are all significant definitions. All of these meanings imply a behavioral emphasis (Van Doorn et al., 2010). While the concept of 'engagement' has gained significant attention in a variety of academic areas, including Education, organizational behavior, sociology, psychology, political science, management, and information systems (Bowden, 2009; Chan et al., 2014; Hollebeek et al., 2014; Chan et al., 2014 & Saavedra Torres, 2019). It has only recently emerged in marketing research (Chan et al., 2014). Engagement' has been regarded as a promising term with the potential to improve the proactive and explication power of key consumer behavior consequences such as brand loyalty (Hollebeek et al., 2014). We pinpoint several engagement-based concepts, such as consumer- and customer engagement, community engagement, and so on. The variety of emerging 'engagement'-based concepts, in particular, illustrates the emerging growth-oriented state of 'engagement' studies in the marketing-related literature; however, these indicate distinguished conceptual fields, in comparison to CBE (Dessart et al., 2016).

❖ Importance of Engagement

In the context of marketing literature, some studies pointed out the benefits of engagement (Bowden, 2009; Hollebeek et al., 2014; Dessart et al., 2016; Schivinski et al., 2021). As follows:

- While the particular manifestation of confined 'engagement' dimensions can differ through contexts, engagement' reflects a multi-dimensional concept consisting of appropriate cognitive, emotional, and behavioral measurements.

- In a nomological gross of specific theoretical relationships, 'engagement' is vital.
- Furthermore, engagement differs conceptually from other related concepts such as consumer involvement and customer satisfaction.
- Engagement is critical in gaining a better understanding of the performance of services and customer satisfaction.

2.1.2 Customer Engagement (CE)

Consumer engagement has been extensively researched in marketing research as a sub concept under the umbrella term 'engagement' (Chan et al., 2014). Although customer engagement is often measured in research into marketing, academic interest in customer engagement as a distinct concept is restricted ((Hollebeek et al., 2014). In the previous research, researchers identified and examined the concept of 'customer engagement' from three different viewpoints: psychological process, behavioral expression, and motivational psychological condition (Chan et al., 2014; liu et al., 2019).

According to marketing literature, there are many various studies that defined the concept of customer engagement (Van Doorn et al., 2010; Gummerus et al., 2012; Kabadayi and Price, 2014; Chan et al., 2014; Barger et al., 2016; Husnain and Toor, 2017; Harmeling et al., 2017; Saavedra Torres, 2019; Imtiaz et al., 2019; liu et al., 2019; Bai and Yan, 2020; Mohammad, 2020; Vanitha and Subramanian, 2020; Obilo et al., 2021). Hence, we conceptualize the definition of customer engagement as a business communication connection between an external stakeholder (consumer) and an organization (company or brand) through various channels of correspondence. This connection can be a reaction, interaction, effect or overall customer experience, which takes place online and offline.

❖ Importance of CE

In the light of marketing research, many studies confirmed the benefits of customer engagement (Gummerus et al., 2012; Leckie et al., 2016; Harmeling et al., 2017; Bai and Yan, 2020 & Obilo et al., 2021). As follows:

- Customer engagement supports a company's profitability.
- It includes the customer's active brand interactions, is contextually dependent, and increases consumers' perceived brand value.

- Customer engagement is frequently utilized to indicate the greatest level of loyalty, yet as a behavioral manifesting, it encompasses all types of practices, not just those associated with high levels of loyalty.
- It can be interpreted as word of mouth, writing blogs, or presenting product or brand evaluations.
- Customer contributions of resources such as knowledge, skills, and time help the main business enhance its product range. As well as consumer suggestions and recommendations, online posts, and a variety of other practices those impact the company and its brands.
- It is applicable in situations where customers can co-create value, co-create strategies for competing, participate in the firm's creativity process, and become intrinsic to the company.

❖ Customer Engagement in Brand Communities

We contend that customer engagement behaviors extend beyond transactions and can be defined simply as a customer's behavioral interactions with a brand or firm focus that occur beyond purchase and are motivated by incentives (Moran et al., 2020). It additionally significant to note that, while customer engagement behaviors (CEBs) have a brand/firm concentration, they may be directed at a much wider range of participants, such as other current and potential customers, suppliers, the general public, government agencies, and company staff members (Van Doorn et al., 2010).

According to Van Doorn et al., (2010) and Leckie et al., (2016), CEB is defined as Consumers' positive, fulfilling, brand-use-related state of mind that is characterized by vigour, dedication and absorption.

❖ The Difference between Traditional CE and Social Media Customer Engagement (SMCE):

Unlike the traditional transactional perspective on customer engagement, where a complete customer engagement could be achieved by establishing a distinct brand's value proposition, constructing a workplace culture among employees in order to provide satisfactory customer experience when interacting as part of the firm with customers (Chauhan and Pillai, 2013). The growing popularity of social media websites such as Facebook, Myspace, Net log, and LinkedIn has fueled the growth of online communities within these platforms, prompting researchers to investigate the significance of customer engagement on social networks (Chan et al.,

2014). Social network marketing has altered the traditional shopping experience that is C2B. Customers can now access product-related information by receiving both information and feedback at the same time (Imtiaz et al., 2019).

❖ The Effect of SM on CE

The widespread use of social media, such as social networking sites (SNSs), has necessitated the adoption of comparable, more relevant metrics of consumer-brand engagement in the digital environment today (Husnain and Toor, 2017). SNSs are dynamic websites that enable consumers to communicate with others (e.g., brands) and interact with them in an array of forms. One of the most commonly reported engagement metrics recently is the Facebook "like." This simple one-click social plugin allows customers to express their satisfaction or confirmation of content on social media (Imtiaz et al., 2019).

A significant number of likes indicates that a post is interesting and widespread, enhancing its ability to attract more likes and, as a result, advancing consumer engagement. Further engagement metrics, such as comments and shares, help to extend the reach of a brand post and indicate its popularity to others (Moran et al., 2020). Reviews published on the internet have a short- and long-term impact on business performance (i.e., sales, cash flow, stock prices, and abnormal returns) (Bai and Yan, 2020).

2.1.3 Digital Consumer Engagement

Customers engage with digital content because it "satisfies their desire for information," and because "experiences that link a brand to a person's objectives or values foster large engagement". Following this initially favorable perception for content interaction, buyers will translate the engagement to the brand, forming their feelings, thoughts, and behaviors toward the brand (Saavedra Torres, 2019).

Direct measures of customer engagement include digital actions (such as word-of-mouth, blogging, and reviews) and their contributions to the brand, such as knowledge, skills, and feedback. Moreover, it includes indirect measures such as sales leads, sales, customer feedback (product innovation), and business performance (Saavedra Torres, 2019).

The number of likes, comments, and shares are indicators of consumer digital engagement which can be further classified into three levels (low,

moderate, and high) accordingly Overall, these indicators form a distinct set of metrics that are frequently used by businesses for ad evaluation and purchase forecasting (Cheng et al., 2021).

❖ Characteristics of DCE

Meire et al., (2019) and Bai and Yan, (2020) illustrated the characteristics of digital customer engagement as follows:

Users' forwarding, comments, and likes are typical indicators of consumer engagement. It contends that consumers are becoming vital creators of brand stories as a result of the newly active communities of consumers and brands established within digital platforms, as well as the ease with which company experiences can be shared in such networks. Users' postings to social media comments and forwarding are thought to be similar to users' online word-of-mouth. Furthermore, we place a premium on comments that are not commercially motivated, are not incentivized by firms, and are interactive in nature.

❖ Definitions of DCE

Consumer digital engagement is defined as the sum of interactions between consumers and firms in response to each FGC message posted on a social media platform "The mechanics of a consumer value addition to the firm" (Cheng et al., 2021). Besides, Meire et al., (2019) who revealed that the sentiment of customers' digital engagement, as the tone or valence (negative or positive) of customers' comments on brand-related social media pages in reaction to firms' social media content surrounding particular consumer-brand interactions.

Moreover, liu et al., (2019) defined consumer engagement in social media (SM) as a consumer's psychological state with respect to their experience of the interactions that take place in SM with the brand, other consumers and the company. Also, Vanitha and Subramanian, (2020) mentioned that Customer engagement is a business communication connection between an external stakeholder (consumer) and an organization (company or brand) through various channels of correspondence. This connection can be a reaction, interaction, effect or overall customer experience, which takes place online and offline.

The current study adopts the first definition of digital customer engagement related to Cheng et al., (2021).

❖ Dimensions of DCE

In the context of marketing literature review, many studies mentioned the dimensions of DCE (Kuvykaite and Piligrimiene, 2014; Dessart et al., 2016; Thao et al., 2017; Hepola et al., 2017; Hinson et al., 2019; Xi and Hamari, 2019; liu et al., 2019; Yoong and Lian, 2019; Moran et al., 2020; Obilo et al., 2021 & Schivinski et al., 2021). As follows:

There are three dimensions to consumer engagement in social media brand communities (SMBCs). The cognitive dimension in SMBCs refers to the extent to which a consumer processes brand-related issues when interacting with a focal brand or other related objects (e.g., other consumers or the sponsoring company). The higher the cognitive engagement, the more information consumers gain about the brand and the more they think about it. In SMBCs, the emotional dimension describes the level of positive affect experienced by a consumer during an interaction with a focal brand or other related objects. Finally, the behavioral dimension relates to how much effort, time, and energy a consumer devotes to psychical activities related to a focal brand. Several studies concentrate solely on the behavioral for three reasons:

❖ Antecedents and Consequences of DCE

Several studies, including (Chan et al., 2014; Barger et al., 2016; Chiang et al., 2017; Pansari and Kumar, 2017; Hinson et al., 2019), mentioned the antecedents and consequences of customer engagement in social media marketing, yet Barger et al., (2016) proved more relevant to my research and more comprehensive than previous studies. As follows:

- Antecedents of Consumer Engagement in Social Media Marketing

The investigation of the literature indicated five measures of consumer engagement antecedents: brand factors, product factors, consumer factors, content factors, and social media factors.

- Brand factors

Brand attitude, brand warmth, for-profit vs. non-profit status, word-of-mouth for related brands, spending on traditional advertising, and a firm's commitment to communication technologies have all been studied in terms of their effects on consumer engagement. Though not well researched in the social media literature, a company's commitment to developing rich social

media strategies and tactics is expected to have an impact on brand engagement.

- Product factors

In relation to consumer engagement, five product-related variables have been investigated: hedonic vs. utilitarian products, new vs. updated products, existing product reviews, product quality, and product experience. Lack of experience with a brand's product is a major motivating factor for consumer brand subversion that results in feelings of rage, frustration, dissatisfaction and hatred. As a result, consumers can use social media to cause considerable damage to the brand.

- Consumer factors

Customer engagement can occur for a variety of reasons, including entertainment, information acquisition, incentives and promotions, social influence and bonding, and impression management. The number of friends or followers a person has also influences their willingness to share. Contrast the sharing behaviors of consumers who communicate with many people with those of consumers who communicate with only one other person. Consumers are less likely to share content that may indicate negatively on them while sharing with several people. When sharing with just one other person, however, consumers concentrate on the value of the information to the receiver rather than the value to the sharer.

- Content factors

When they classified the postings by marketing objective, they found that consumers were more likely to engage with task-oriented content than self-oriented content (e.g., communicating a sales promotion), interaction-oriented content (e.g., posting content not directly related to the brand), and self-oriented content (e.g., posting information about the company). Customers were more likely to interact with posts that were not highly commercial and contained emotional feelings. Furthermore, posts with multiple senses and interactive elements were able to achieve engagement than posts without multisensory and interactive features. Posts with photos were also more likely to attract likes, comments, and shares.

- Social media factors

Social media networks foster engagement through four characteristics: social relationships, entertainment, information access, and ease of use.

- **Consequences of Consumer Engagement in Social Media Marketing**

Our analysis of the marketing literature showed five measures of social media consequences: brand effects, product effects, consumer effects, content effects, and market effects.

- **Brand effects**

The consequences of firm-created and user generated social media communication on brands. The existence of unfavorable markers (e.g., "I'll be honest," "I don't want to be mean, but") in user-generated content increased the brand's credibility and likability.

- **Product effects**

Consumer engagement was examined using sets of product reviews. Product attitudes were most influenced when none or only a few of the reviews in a set were negative. Furthermore, unfamiliar brands had a greater influence on attitude than familiar brands.

- **Consumer effects**

Another likely outcome of customer engagement is increased consumer power, especially when engagement efforts are regarded in aggregate.

- **Content effects**

The greater the number of positive reviews, the greater the probability that the reader is to recommend the product to others. Furthermore, we anticipate that a highly engaged community member will be more likely to repurchase the brand's products and spread positive word of mouth about the brand.

- **Market effects**

Consumer engagement can have a significant market-level impact. The language used in user-generated content has an impact on sales. The existence of preferred markers in user generated content raised a product's willingness to be purchased.

2.2 Brand Recall

This part discusses the evolution of brand recall in marketing research, beginning with the brand term and progressing through branding, online branding, brand equity, and brand awareness to brand recall, including its importance and dimensions.

2.2.1 Brand

Each organization strives to manage well-known and powerful brands. Companies must consider consumer requirements and needs in order for their brands to be marketable and create value for customers (Kuvykaite and Piligrimiene, 2014).

The word "brand" refers to a "name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers" (Yasin et al., 2020).

2.2.2 Branding

The primary objective of branding is to elicit a positive reaction from consumers/customers. Businesses try to achieve this by offering products to customers and emphasizing distinguishing features (Kohli et al., 2015). Differentiation is central to branding. Without it, products discontinue being brands and shift to commodities, making it impossible to add a price premium also, Differentiation enables businesses to manage their prices and attract brand loyalty (Kohli et al., 2015).

Branding is defined as "a process" that emphasizes the value and meaning of specific firms, products, or services by "creating and shaping a brand in consumers' minds." (Yasin et al., 2020)

❖ The Importance of Branding

Branding differentiates a company or a product from competitors by creating a sustainable favorable impression in the memories of customers. Branding, in this way, performs for attracting as well as maintaining customers (Yasin et al., 2020)..

2.2.3 Online Branding

Online branding, on the other hand, is simply associated with the use of the Internet for establishing the brand in the competitive marketplace (Yasin et al., 2020).

An "aggregation of individuals or business partners who interact based on a shared interest, where the interaction is supported or mediated by technology" is what online brand communities are" (Chan et al., 2014 & Weiger et al., 2017). Firms operate online brand communities through committed, firm-hosted sites or through websites integrated into social

media channels of communication (e.g., Facebook brand pages) (Weiger et al., 2017). A growing number of companies host commercial online communities in order to establish interactions with customers, solicit feedback, and reinforce the brand (Gummerus et al., 2012).

❖ Why Do Consumers Join Brand Communities?

According to Habibi et al., (2014), Engaging in brand communities typically provides consumers with utilitarian and hedonic benefits. Consumers participate in a brand community to meet their desire for identification through signs and groups. This allows them to supplement their self-concept by utilizing brand community symbols and meanings. Concentrate on the utilitarian benefits that consumers obtain from attending brand events. Demonstrates that one of the primary drivers of consumers is to gain the required knowledge or skills to more effectively utilize their preferred brand's product.

❖ The Difference between Traditional Community and Social Media Community

Brand communities are specialized consumer communities that differ from traditional communities mainly because of their business-oriented nature and members' shared enthusiasm, if not love, for a brand (Zaglia, 2013 & Schivinski and Dabrowski, 2016). As a whole, consumers are more likely to respond if a product or service truly meets their expectations, and social media makes it considerably simpler to learn about and post information about brands that may best meet one's needs (Schivinski and Dabrowski, 2016).

The basic attribute of social media sites and brand communities is that their members interact with one another. These continuous interactions are essential for social networks' longevity and achievement; likewise, social relationships are critical in brand communities; the last type is constructed close to a brand, its basic asset, but subsequently increases and remains owing to the connections among its participants (Zaglia, 2013; Kohli et al., 2015).

2.2.4 Brand Equity

Brand equity can be described as the added value associated with a particular product as a result of the consumer's thoughts, words, and actions. Customer-based brand equity (CBBE) is linked with conditions in which customers remember favorable, strong, and distinct brand associations

(Hepola et al., 2017; Thomas, 2018). It measures a consumer's reaction to a brand name (Hermaren and Achyar, 2018). Brand equity is one of the most important intangible assets a company has, and it can provide competitive advantages (Schivinski and Dabrowski, 2016 & Xi and Hamari, 2017). Brand equity is defined in various studies as “a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customers “(Kohli et al., 2015; HE, 2016; Schivinski and Dabrowski, 2016; Gong, 2017; Thomas, 2018; Xi and Hamari, 2017; Algharabat et al., 2020 & Verma, 2021).

❖ Dimensions of Brand Equity

Various brand equity studies conducted over the years have yielded a variety of brand equity dimensions that can be linked to a brand. The factor that is common in all models, however, is the use of one or more Aaker model dimensions. As a result, consumer-based brand equity is a four-dimensional asset that includes brand awareness, brand associations, perceived quality, and brand loyalty (Hermaren and Achyar, 2018).

- Awareness is defined as “the customers’ ability to recall and recognize the brand as reflected by their ability to identify the brand under different conditions and to link the brand name, logo, symbol, and so forth to certain associations in memory “(Hermaren and Achyar, 2018).
- Associations serve as the foundation for purchasing decisions and brand loyalty. Brand associations include all brand-related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes, and anything else that is associated with a brand in memory (Hermaren and Achyar, 2018).
- Perceived quality differs from objective quality in that it is the customer's assessment of a product's overall excellence or superiority (Hermaren and Achyar, 2018).
- Loyalty is a critical component of brand equity. We define brand loyalty as a customer's attachment to a brand (Hermaren and Achyar, 2018).

Building customer-based brand equity begins with increasing consumer awareness of the brand and causing the formation of brand associations. If consumers are aware of the brand and seek additional information about it,

it will create associations in their minds, influencing their perception of brand quality and attitudinal brand loyalty (Hermaren and Achyar, 2018).

2.2.5 Brand Awareness

The power of brand existence in the minds of consumers is referred to as brand awareness (Hermaren and Achyar, 2018). Consumer awareness of a brand is essential, yet not enough, for value creation. Brand awareness is required for CBBE because consumers need to be aware of the brand. It consists of two major components: brand recall and recognition (Schivinski et al., 2021). As a result, higher levels of awareness generate stronger brand beliefs, leading to equity because consumers are more likely to select a trusted brand over others with lower levels of awareness (Schivinski et al., 2021). Higher brand awareness leads to improved brand recall at the time of purchase, so businesses should focus on enhancing brand awareness (Khurram et al., 2018).

2.2.6 Brand Recall

It has been widely established that the stronger the brand in the consumer's memory, the higher the likelihood of it being considered for purchase and then actually purchased (Khurram et al., 2018). Customers in the modern world rely heavily on their recall ability when making a purchase decision due to a lack of time provided for absorbing the marketer's other marketing efforts (e.g., television advertising, etc.) (Khurram et al., 2018). Brand recall without preparing occurs when a consumer can recall the brand while making a purchase decision. Similarly, consumers favor to purchase brands that have a higher recall due to event sponsorship. Consumers with strong brand recall are more likely to buy the brand. It is expected that consumers undertake the purchase decision process before making a purchase under brand recall (Khurram et al., 2018).

The organization's goal is to increase market awareness of its product and service offerings and increase purchase intent (Gesmundo et al., 2022). Customers recall a brand/product quickly as a result of advertising and marketing efforts, which leads to product purchase as a result Brand recall, which reflects brand awareness, has a significant positive impact on actual purchase (Gesmundo et al., 2022).

❖ Definitions of Brand Recall

In marketing researches brand recall is usually defined as the reproduction of some targeted item/brand for which consumer has pre-knowledge or experience (Bagozzi & Saik, 1983). Besides, Prashar et al., (2012) confirmed that Brand recall refers to how well a consumer recalls a brand when given a certain situation.

Additionally, Brand recall is another concept where the consumers are able to retrieve the brand from memory for a particular product (Al Amin, 2018). Moreover, Parengkuan et al., (2020) pointed out that brand recall is “the form of memory that requires one to reconstruct a certain stimulus since the stimulus is not present at the time of recall; Prompted by an outside stimulus such as a logo, slogan, or a question, the consumer can recall the brand “. Another definition is that Brand recall emerges with the ability of the customer to retrieve the brand from memory, whereas brand recognition happens when the consumer is able to differentiate a brand among other options (Schivinski et al., 2021).

Thus, the current study adopts the definition of Gesmundo et al., (2022) who define brand recall as one of the two ways for consumers to re-identify a brand from a specific category, which is the ability of consumers to remember a brand through memory when given a product category.

3. Research Methodology

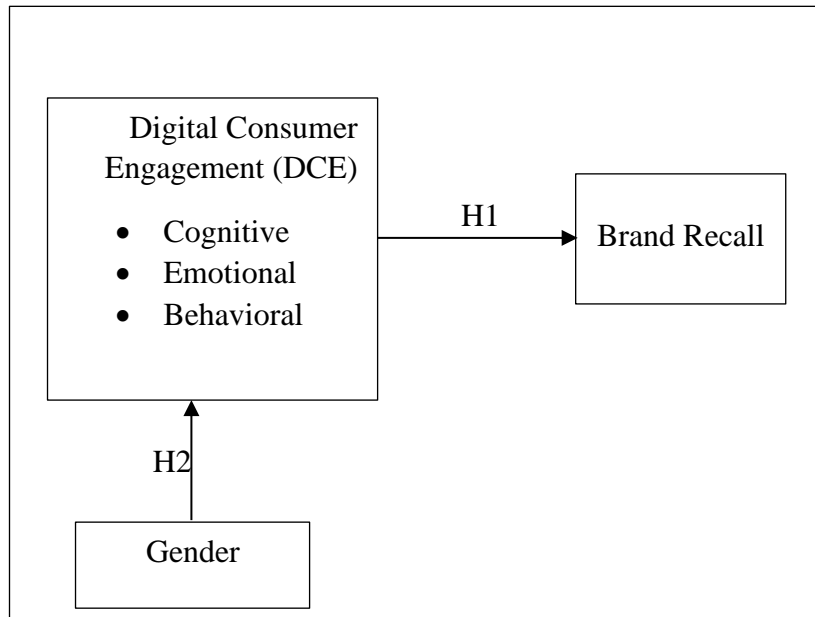
3.1 Research Variables and Measures

Table (1)
Research Variables and Measures

Variable	Items	Reference
Independent Variable		
Digital Consumer Engagement	<p>It was measured using a set of statements related to these dimensions:</p> <ul style="list-style-type: none"> ➤ Cognitive Items <ul style="list-style-type: none"> ● On these brand's/s social media pages, my mind is very focused on these brands. ● On these brand's /s social media pages, I focus a great deal of attention to these brands. ● On these brand's/ s social media pages, I become absorbed by these brands. ➤ Emotional Items <ul style="list-style-type: none"> ● I am enthusiastic in relation to these brand /s on its social media pages ● I feel energetic when I contact with this brand /s on its social media pages. ● I feel positive about these brand /s on its social media pages. ➤ Behavioral Items <ul style="list-style-type: none"> ● I exert my full effort in supporting this brand /s on its social media pages. ● I am very active in relation to this brand /s on its social media pages. ● I try my hardest to perform well on behalf of this brand /s on its social media pages. 	Adopted by (Abdelkader and Ebrahim., 2021)
Dependent Variable		
Brand Recall	<p>It was measured using a set of statements as follows:</p> <ul style="list-style-type: none"> ● I can remember the name of the brand/s quickly whenever I see it's background pictures. ● I can think of key characteristics of the brand/s quickly whenever I see it. ● I can effortlessly imagine what the brand/s look like. 	Adopted by (Yoo et al., 2000)

Source: by the researcher.

Figure (1) shows the proposed relationships among research variables:



Source by: the researcher

3.2 Population and data collection procedures:

- Research Population:

This research is applied on followers or users of fashion brands on social media platforms related to these brands.

- The sample of the study:

It is a systematic random sample or internet sample, and becomes random and its results are generalizable, or it is a non-random sample, but it has the features of random sample.

A384 questionnaires of social media followers of non-random sample are needed. Because of online surveys, a convenience sample method is applied.

At margin of error 5%, confidence level 95%, and population size more than 50000. So, the recommended sample size is 384. Using the following formula:

For the sample size n

$$n = N * X / (X + N - 1), \text{ where } X = Z_{\alpha/2} * p * (1-p) / MOE^2,$$

and $Z_{\alpha/2}$ is the critical value of the Normal distribution at $\alpha/2$ (e.g., for a confidence level of 95%, α is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. Note that a Finite Population Correction has been applied to the sample size formula. (Daniel and Cross, 2018: 141-142).

3.2.1 Data Collection Method:

This study applies two types of data: first, secondary data, which is data specific to this research population as well as literature dealing with topics related to the research problem from its various sources, which includes foreign references, scientific magazines, statistics and reports of fashion brands available. Second, other than the secondary data that supported in determining the nature of research problem and questions, the formulation of hypotheses, and for the determination of the key characteristics of research population, the primary data required to achieve the research objectives was obtained through E-questionnaire directed to followers of fashion brands on social media platforms related to these brands.

A questionnaire is a type of primary data collection method in which respondents are asked to complete the same set of questions in a predetermined order on their own (Collis & Hussy, 2014). The questionnaire is the most widely used data collection technique in survey research. Therefore, this study will adopt the questionnaire method to obtain data from a large number of followers of social media platforms in Egypt (Saunders et al., 2016).

There are three types of data collection in this category (questionnaire). Online surveys or e-mail-based surveys are one of them which are administered either through a website or through a word-processed document attached to an e-mail. A major disadvantage of online questionnaire is not having interviewer on hand to clarify questions or to repair misunderstanding. But it has a variety of advantages:

- 1- The research population is the followers of fashion brands on their pages on social media platforms. So, it's easy to ask them by online

questionnaire because of allowing for data collection from widely dispersed locations.

- 2- It is one of the most common sources of data collection that is sent to the target sample.
- 3- It saves the researcher's time. Because, it is quick to prepare and send.
- 4- It is cost effective or low cost.
- 5- One of its advantages is that its respondents are more honest, as the research allows participants to answer without revealing their identity, and thus there are honestly in providing comments (Saunders et al., 2016).

Based on the above discussion, this type of questionnaire is appropriate for this study.

3.3 Research Population Description:

As, research population is the followers of social media platforms related to fashion brands, and their numbers exceed 500000 followers. Hence, we need a sample of followers at least 384 followers (minimum sample size) to answer the online questionnaire. The researcher posted the questionnaire link (<https://forms.gle/W75BPBb7aCuLkFHj8>) on social media platforms groups that specialize in selling fashion brands during day and weekends in Egyptian environment. The researcher received about 586 online applications, and all of them are valid, and none of them were excluded. Hence, 586 questionnaires of social media followers related to fashion brands are applied. As the higher the number of answers of questionnaire, the lower the sampling error (Daniel and Cross, 2018).

Top 10 brands of these fashion brands were chosen as follows: Zara, H&M, Adidas, Nike, Gucci, Cartier, Louis Vuitton, Rolex, Hermes, and Tiffany & Co. to be applied through questionnaire.

3.4 Questionnaire Design:

All variables were measured using a five- point likert scale ranging from 1 (Extremely Disagree) to 5 (Extremely Agree). Face and content validity were discussed with a panel of experts (some of the marketing's specialized referees) in order to assess the clarity of questions, determine the length of time required for completion, and examine the appropriateness of the questions asked. Some changes and modifications were made in response to

their feedback to ensure that the questions were appropriate for the Arabic context.

Other than the introduction, the questionnaire has four sections that explain the purpose of the study and provide contact information in case participants have any further inquiries.

Section 1: this part consists of two questions. First, asking followers which of fashion brands you follow its social media page? Second, how often do you follow these pages?

Section 2 (Independent Variable/ Digital Consumer Engagement): this section consists of three dimensions: cognitive, emotional, and behavioral. Each dimension contains three items or questions adapted from (Abdelkader and Ebrahim., 2021).

Section 3 (Dependent Variable/ Brand Recall): this part consists of three items adapted from (Yoo et al., 2000).

Section 4 (Demographic characteristics): this part asks followers of social media platforms for their demographic information including their name (optional), their educational level, their gender, and their ages.

3.4.1 Measures:

Digital consumer engagement was measured using the scale adapted from (Abdelkader and Ebrahim., 2021), Participants answered the 9-item questionnaire using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A confirmatory factor analysis in AMOS Graphics 25 was conducted in order to verify the factorial structure of the scale. The maximum-likelihood estimation was applied and reported the following fit indexes: Comparative Fit Index (CFI), Incremental Fit Index (IFI), and the Root Mean Square Error of Approximation (RMSEA) (Hu & Bentler, 1999). The model with nine items fit the data in a satisfactory degree: CFI = 0.96; IFI = 0.95; RMSEA = 0.05.

Brand recall was measured using the scale adapted from (Yoo et al., 2000), Participants answered the 3-item questionnaire using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A confirmatory factor analysis in AMOS Graphics 25 was conducted in order to verify the factorial structure of the scale. The maximum-likelihood

estimation was applied and reported the following fit indexes: Comparative Fit Index (CFI), Incremental Fit Index (IFI), and the Root Mean Square Error of Approximation (RMSEA) (Hu & Bentler, 1999). The model with nine items fit the data in a satisfactory degree: CFI = 0.99; IFI = 0.99; RMSEA = 0.01

3.4.2 Validity and Reliability Test:

Hair et al. (2019) points out that the examination of the indicator loadings and their significance is the first in measurement model assessment. The standardized loadings should have a value of at least (0.708) and an associated t-statistic above ± 1.96 to be significant for a two-tailed test at the 5% level (Hair et al., 2011). The assessment of the internal consistency reliability using the composite reliability is the second test. Reliability values falling between 0.79 and 0.90 are satisfactory but values of 0.95 and above are too high and may cause problems because they suggest that the items are redundant (Dijkstra & Henseler, 2015). The Cronbach's alpha is another measure of reliability and values are expected to be 0.7 and above. The third step is the convergent validity of each construct using the average variance explained (AVE). Hair et al. (2020) recommends a minimum of 0.50 as the AVE. In addition, the square root of the AVE should be higher than squared between-variables correlations.

Table (2)

Validity and reliability statistics

Construct	Standard Loading	AVE	CR	α	Fit indices		
					CFI	IFI	RMSEA
Digital Consumer Engagement (DCE)							
COG1	0.784**						
COG2	0.708**	0.542	0.806	0.815			
COG3	0.715**						
EMO1	0.797**						
EMO2	0.744**	0.601	0.818	0.821	0.959	0.951	0.047
EMO3	0.783**						
BEH1	0.726**						
BEH2	0.774**	0.547	0.811	0.819			
BEH3	0.718**						
Brand Recall (BRC)							

Construct	Standard Loading	AVE	CR	α	Fit indices		
					CFI	IFI	RMSEA
BRC1	0.870**						
BRC2	0.794**	0.678	0.863	0.830	0.990	0.986	0.004
BRC3	0.804**						

Note: **COG**, Cognitive dimension; **EMO**, Emotional dimension; **BEH**, Behavioral dimension; **AVE**, Average Variance Extracted; **CR**, Composite Reliability; α , Cronbach's alpha; **CFI**, Comparative Fit Index; **IFI**, Incremental Fit Index; **RMSEA**, Root Mean Square Error of Approximation

Table (3)

Discriminant validity

Variables	COG	EMO	BEH	BRC
COG	0.736			
EMO	0.507	0.775		
BEH	0.428	0.635	0.740	
BRC	0.392	0.286	0.309	0.823

Note: **COG**, Cognitive dimension; **EMO**, Emotional dimension; **BEH**, Behavioral dimension; **BRC**, Brand Recall.

Table 6 illustrates the convergent validity; the item loadings of all the constructs are greater than (0.708). In addition, the composite reliability values are higher than (0.70) but lower than (0.95), suggesting adequate construct validity. Cronbach's alpha values for the constructs are above (0.7); all the constructs of this study achieved an AVE of above (0.50) suggesting adequate convergent validity. In addition, Table 7 shows that the square root of AVE is higher than the correlations squared among the variables. The meeting of the two requirements indicates an adequate level of discriminant validity. All these tests confirm that the measurement model is satisfactory.

3.5 Tools of Statistical analyses:

Data analysis was performed with SPSS 25 and Amos 25. First, the measurement models were tested; Hu & Bentler (1999) cutoff values were used for analyzing the models' fit indices and reliability. Second, descriptive statistics were generated on digital consumer engagement, and brand recall. Third, Pearson analysis was used to examine the associations between variables. Fourthly, the structural model was tested; Hair et al.

(2019) cutoff values were used for analyzing the models' fit indices; structural equation modeling was used to test hypotheses. Fifth, t-test was run to measure the significant difference in the opinions of the research sample about (DCE) according to gender.

4. Data Analysis and Research Results

4.1 Descriptive statistics:

The frequencies and percentages of the demographic variables (gender, age, and educational level) were used to describe the research sample. Tables (4.1, 4.2, and 4.3) show the results of the descriptive analysis of the sample:

Table (3)
Descriptive analysis of the sample

Variables	Category	Frequencies	Percentages
Gender	Male	197	33.6%
	Female	389	66.4%
Total		586	100%

Source: Prepared by the researcher.

Table (3) shows that number of men in the sample was (197) with a percentage of (33.6%), while the number of women was (389) with a percentage of (66.4%), and this means that most of the sample members are women.

This points out that fashion brands may target women more than men in general. As a result, participants with higher levels of fashion involvement tended to be females. And this confirmed that females have more brand interactions than males across all platforms.

Table (4)
Descriptive analysis of the sample

Variables	Category	Frequencies	Percentages
Age	Less than 20 years	75	12.8%
	From 20 to less than 30 years	317	54.1%
	From 30 to less than 40 years	132	22.5%
	From 40 to less than 50 years	42	7.2%
	More than 40 years	20	3.4%
Total		586	100%

Source: Prepared by the researcher.

Table (4) shows that number of respondents from a category of less than 20 year reached (75) with a percentage of (12.8%), and from a category of from 20 to less than 30 year (317) with a percentage of (54.1%), and from a category of from 30 to less than 40 year (132) with a percentage of (22.5%), as well as from a category of from 40 to less than 50 year (42) with a percentage of (7.2%), and more than 40 year (20) with a percentage of (3.4%), and this means that most of the sample members are from a category of from 20 to less than 30 years.

As a result, fast fashion is most popular among younger consumers, who represent a lucrative market. Consumers aged 20-30, who are the primary targets of fast fashion advertising, also account for the largest combined share of users in today's popular social networks. Furthermore, this age group used social media to inquire about products they were interested in.

Table (5)

Descriptive analysis of the sample

Variables	Category	Frequencies	Percentages
Educational level	Student	137	23.4%
	Graduate	269	45.9%
	Postgraduate	180	30.7%
Total		586	100%

Source: Prepared by the researcher

Table (5) shows that number of respondents from a category of student reached (137) with a percentage of (23.4%), and from a category of graduate (269) with a percentage of (45.9%), and from a category of postgraduate (180) with a percentage of (30.7%), and this means that most of the sample members are from a category of graduate.

Because Graduates are in the youth stage, which is the group that is most concerned with brands' content and advertisements on social media platforms related to fashion brands. Furthermore, they are the group that is most aware of social media and always follows fashion to know what is new and trendy in the fashion world, as they try out these brands and brag about them, and they are the first to give their opinions on it. Also provide real feedback based on their prior experience.

4.2 Descriptive Statistics of Variables:

In this part, the results of the statistical analysis related to the first question of the study “What is the level of DCE dimensions: COG, EMO, BEH, and BRC from the viewpoint of the online fashion community?” are discussed. Table (4-4) shows the results of the descriptive analysis of the study variables:

Table (6) Descriptive statistics of Variables

Construct	Mean	Standard Deviation
COG	3.95	0.737
EMO	3.72	0.782
BEH	3.67	0.815
BRC	4.11	0.750

Note: COG, Cognitive dimension; EMO, Emotional dimension; BEH, Behavioral dimension; BRC, Brand Recall

Table (6) depicts the descriptive statistics using the scale means. The mean score of COG is 3.95 with a standard deviation of 0.737. The mean score of EMO is 3.72 with a standard deviation of 0.782. The mean score of BEH is 3.67 with a standard deviation of 0.815. The mean score of BRC was 4.11 with a standard deviation of 0.750. On a five-point Likert scale, a mean value below three is considered as low, three to four moderate and above four high (Fatoki, 2019). The results indicate a moderate level of COG, EMO, and BEH, but a high level of BRC. Values of the standard deviation showed that the highest value of 0.815 was by BEH and the lowest value of 0.737 by COG.

4.3 Correlation analysis:

In this part, the results of the statistical analysis related to the sub-questions of the study “What is the nature of the correlation relationship between COG, EMO, BEH, and BRC from the point of view of the online fashion community?” are presented. To test these questions, the simple correlation coefficient (Pearson) available in the statistical package for the social sciences (SPSS Ver. 25) was used. Table (4-5) shows the correlation matrix between the variables:

Table (7)

Correlation matrix between the variables

Construct	COG	EMO	BEH	BRC
COG	1			
EMO	0.712**	1		
BEH	0.654**	0.797**	1	
BRC	0.536**	0.535**	0.556**	1

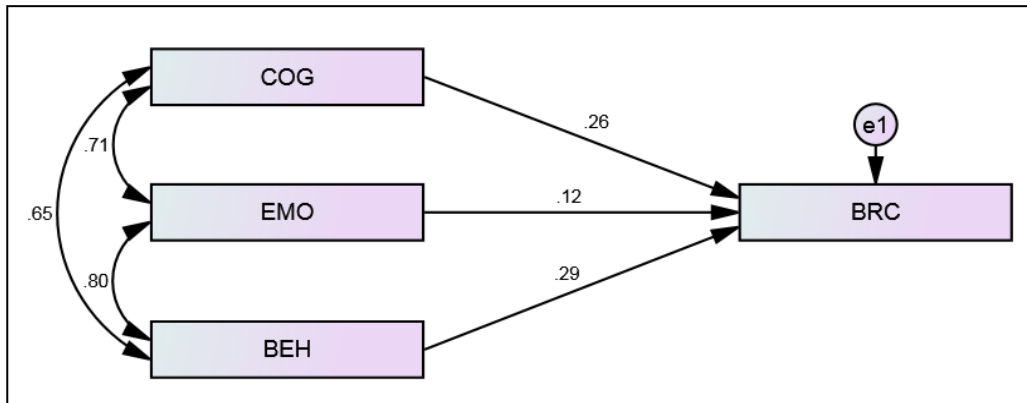
Note: COG, Cognitive dimensions; EMO, Emotional dimensions; BEH, Behavioral dimensions; BRC, Brand Recall; ** P= 0.01.

The correlation coefficients matrix shows that there was a positive significant correlation between (COG, EMO, and BEH) and BRC ($r= 0.536, 0.535, 0.556$); All of which are significant correlations at the level (0.01).

4.4 Hypothesis test results:

To test the study hypothesis (H1), structural equation modeling in AMOS 25 software was employed. The model fitness indices indicate to a good fit of the data with the conceptual framework (GFI= 1, CFI= 1, IFI= 1, RMSEA= 0) as Hair et al. (2019) recommended. Figure (2) shows the structural model of the study.

Figure (2) The structural model of the study



Note: COG, Cognitive dimensions; EMO, Emotional dimensions; BEH, Behavioral dimensions; BRC, Brand Recall.

Table (8)

Hypotheses testing results (H1)

H.	Paths	Estimate	P-value	Result
Direct effects				
H ₁	COG → BRC	0.263	***	Supported
	EMO → BRC	0.116	0.052	Rejected
	BEH → BRC	0.291	***	Supported

Note: COG, Cognitive dimensions; EMO, Emotional dimensions; BEH, Behavioral dimensions; BRC, Brand Recall; DCE, Digital Consumer Engagement; *** P< 0.01.

Table (8) shows that the results revealed that (COG and BEH) have a positive influence on BRC with values ($\beta= 0.263$, $p <0.01$, $\beta= 0.291$, $p <0.01$), respectively; While there was no significant effect of EMO on BRC; supporting Hypothesis3 partially.

T-test was employed to test the second hypothesis "There are significant differences in the opinions of the research sample about (COG, EMO, and BEH) according to gender". Table (14) indicates the results of T-test:

Table (9)

The results of T-test

Variables	Male= 197		Female= 389		P-value
	Mean	SD	Mean	SD	
COG	3.91	0.795	3.97	0.706	0.026
EMO	3.67	0.816	3.74	0.764	0.486
BEH	3.59	0.834	3.71	0.804	0.258

Note: COG, Cognitive dimensions; EMO, Emotional dimensions; BEH, Behavioral dimensions.

Table (9) indicates that there are significant differences in the opinions of the research sample about (COG) according to gender because the significance value is (0.026), which is less than (0.05); While there are no significant differences in the opinions of the research sample about (EMO, and BEH) according to gender because the significance values are (0.486, 0.258), which is greater than (0.05); Hence, Hypothesis 2 was partially rejected.

5. Discussions, Implications, and Conclusion

5.1 Discussion of Findings

5.1.1 The relationship between DCE dimensions (COG, EMO, and BEH) and brand recall in the online fashion community.

The findings revealed that (COG and BEH) have a positive influence on brand recall, but there was no significant effect of (EMO) on brand recall.

This result is in line with the findings of Verma (2021), which confirmed that brand love and brand engagement are second order constructs and important brand mix elements. Brand engagement and brand love relationship is moderated by usage and gender. Similarly, rather et al. (2018), which indicated significant and positive interrelationships among customer brand engagement, brand loyalty and brand equity. These findings can aid managers in determining which factors/dimensions to consider when planning, developing strategies, and making informed decision to strengthen brand loyalty and brand equity in building customer brand relationships towards hospitality.

The findings are also consistent with Shahid & Iqbal A. (2018), which verified the mediating role of satisfaction between brand customer engagement and brand equity, brand attachment, brand loyalty and brand trust.

This result is also consistent with several studies (Algharabat et al., 2020; Kuvykaite & Piligrimiene, 2014; de vries et al., 2017; Zaglia, 2013) revealed that customer engagement with brands affects brand recall (BR) considering one of the dimensions of brand awareness. Besides, Shojaee & Azman (2013), added brand exposure and electronic word of mouth to customer engagement and proved that customer engagement is the most effective factor on brand awareness.

The findings are also consistent with some other studies that discussed the mediating role of customer brand engagement on brand equity (Machado et al., 2019; Hepola et al., 2017; Xi and Hamari, 2019). these results are also consistent with the result of Chahal & Rani (2017), which mentioned that trust moderates the relationship customer's engagement in the context to social media and brand equity.

Additionally, Mishra (2019), found the uniform effect of the social media marketing efforts and individual's online social interaction propensity on two levels of consumers' social media engagement, but the effect on third level has been found only from the individual's online social interaction propensity. Subsequent effects on brand equity and purchase intention were also found varying across the engagement levels.

These results were inconsistent with the results by Vanitha and Subramanian (2020), which found that there is a positive relationship between brand awareness and customer engagement. Besides, the same inconsistent results of Schivinski et al. (2021), which found that consumer-based brand equity positively drives consumers' behavioral engagement with brands on social media. As a marketer's brand is one of the most important tools for occupying the target market. For a variety of reasons, branding influences and attracts a large number of customers. They believe that branded products have features such as quality, long life, and good service. There is a positive relationship between brand awareness and customer engagement because when people become aware of a brand, they are automatically engaged with that brand until they have a negative experience. Additionally, Brand awareness has evolved into an important factor that influences customers' perceptions of a brand. These results from correctly understanding and managing brand image and loyalty in order to create strong characteristics that will influence consumers when making their own decisions.

5.1.2 Examining the differences among users' perceptions toward DCE dimensions (COG, EMO, and BEH) according to gender in the online fashion community.

The findings revealed that there are significant differences about (COG) according to gender, but there are no significant differences about (EMO and BEH) according to gender.

According to (COG), the difference between males and females is insignificant (minor), but females exceed males.

The reason for differences in recognition in how males and females engage with the brand content is that the extent of females' interest in the details of brand advertising and interaction with the brand content more than males, particularly when the content is about fashion brands.

Along with overall; females have more brand interactions than males across all platforms, as females become more knowledgeable about fashion brands and their details than male.

According to (EMO and BEH) dimensions, there are no differences in engaging with the brand content between males and females. Because, males and females have the same enthusiasm and sentimental attachment to the brand's pages on social media platforms, they interact with it and support its existence on the same level, as they consider themselves to be one of these brand's defenders against competitors.

Therefore, the average results of the main hypothesis (H2) show that, there are no significant differences in the opinions of the research sample about (DCE) according to gender because the significant values are (0.135) which is greater than (0.05).

5.2 Theoretical Implications

This study strives to contribute to the body of knowledge on DCE dimensions, and brand recall. It is the first to examine these research variables within the context of fashion brands on social media platforms in the Egyptian environment. In this regard the study makes a number of Theoretical and academic contributions by integrating new streams of research that have not been examined previously and addressing some of research gaps in measuring the differences among user's perceptions toward DCE and its dimensions according to their gender in the online fashion community.

Firstly, the study concluded that the continuous interaction with the fashion brands' pages on social media positively affects the remembering or recalling of the brand during purchasing that makes a quick recalling of the brand and increases the digital consumer engagement. The research also indicated the positive influence of (COG, BEH) on brand recall while there is no significant influence of (EMO) on brand recall.

Secondly, the researcher also measures the differences among users' perceptions toward DCE and its dimensions according to their gender in the online fashion community. Additionally, it is the first study to examine the differences. The study revealed that there are significant differences about (COG), but there are no significant differences about (EMO and BEH) according to gender.

5.3 Practical/ Managerial Implications

In addition to its academic significance, this study provides unique contributions to practitioners and will help in the development of effective marketing strategies for the fashion industry. In practice, the creation of a scale will assist fashion brands in assessing marketing strategies that can increase customer engagement and brand recall in the online fashion community.

Based on the study's findings, the researcher can make the following recommendations based on the study's objectives and how to implement them.

5.3.1 Action Plan for Recommendations

The following is a summary of the recommendations that the researcher reached after considering some of the respondents' significant comments and discussions with some experts in this field. As follows in table (10)

Table (10)

the research recommendations

RECOMMENDATION AREA	RECOMENDATION	MECHANISM
DIGITAL CONSUMER ENGAGEMENT	Invest in Quality Content:	<ul style="list-style-type: none"> Recognize the importance of creating high-quality, engaging content. Allocate resources for professional content creation, including graphics, videos, and written materials.
	Interactive Content Strategies:	<ul style="list-style-type: none"> Develop content that encourages interaction and participation. This can include polls, quizzes, contests, and other interactive elements that prompt users to engage actively with your brand.
	Utilize Social Media	<ul style="list-style-type: none"> Leverage popular

RECOMMENDATION AREA	RECOMENDATION	MECHANISM
	Platforms:	<p>social media platforms to disseminate your content.</p> <ul style="list-style-type: none"> Identify where your target audience is most active and tailor your strategy accordingly.
	Community Building	<ul style="list-style-type: none"> Foster a sense of community around your brand. Respond promptly to comments and messages, encourage user-generated content, and create a space where consumers feel connected to your brand.
	Personalization:	<ul style="list-style-type: none"> Explore personalization strategies to tailor content to individual user preferences. Utilize data analytics to understand consumer behaviors and deliver content that resonates with specific segments of your audience.
BRAND RECALL	Multi-Channel Approach:	<ul style="list-style-type: none"> Implement a multi-channel digital marketing approach. Ensure that your content is cohesive across various digital channels, providing a consistent brand experience and reinforcing key messages.
	Storytelling and Emotional Connection:	<ul style="list-style-type: none"> Emphasize storytelling in your content strategy. Craft narratives that evoke emotions and create a lasting

RECOMMENDATION AREA	RECOMENDATION	MECHANISM
		impression on your audience, contributing to better brand recall.
	Influencer Marketing:	<ul style="list-style-type: none"> • Collaborate with influencers who align with your brand values. • Influencers can amplify your content, increase engagement, and enhance brand recall through their established audience.
	Measurement and Analytics:	<ul style="list-style-type: none"> • Invest in analytics tools to measure the effectiveness of your digital consumer engagement strategies. • Regularly assess key performance indicators (KPIs) such as engagement rates, reach, and brand recall metrics.
	Customer Feedback Integration:	<ul style="list-style-type: none"> • Actively seek and incorporate customer feedback into your content strategy. • Understand what resonates with your audience and make adjustments based on their preferences and suggestions.
	Adaptability and Innovation:	<ul style="list-style-type: none"> • Stay abreast of emerging trends and technologies. • Be willing to innovate your content strategy to align with changes in consumer behavior and preferences.
	Educational Content:	<ul style="list-style-type: none"> • Include educational content that adds value to your audience. • This can enhance

RECOMMENDATION AREA	RECOMENDATION	MECHANISM
		consumer engagement and position your brand as an authoritative source within your industry.
	Consistency in Brand Messaging:	<ul style="list-style-type: none"> • Ensure consistency in your brand messaging. • A cohesive and coherent message across different digital touchpoints contributes to a stronger brand recall.
	Strategic Timing:	<ul style="list-style-type: none"> • Consider the timing of your content releases. • Understanding when your audience is most active can increase the likelihood of engagement and improve brand recall.
	Long-Term Relationship Building:	<ul style="list-style-type: none"> • Focus on building long-term relationships with your audience. Continuous engagement over time contributes to a more profound and enduring brand recall. • By implementing these practical implications, businesses can enhance their digital consumer engagement strategies, ultimately strengthening the mediating role between firm-generated content and brand recall. Regular evaluation and adaptation to changing consumer dynamics will be essential for

RECOMMENDATION AREA	RECOMENDATION	MECHANISM
		sustained success.

Source: by the researcher.

5.4 Limitations and Future Research

Although the current study has presented useful theoretical and practical implications, it also has some limitations that should be taken in researchers' consideration.

The current study only used a sample of fashion brand followers on social media platforms in Egypt; thus, the study suggests that future research could rely on a larger sample size in all Arab countries.

The study uses top fashion brands as an empirical investigation. Therefore, future studies may examine:

- The possibility of confirming the validity of the measures used in the present study in other institutions such as airlines companies, hospitals, and online banks in the Egyptian environment.

This study examined the relationship between DCE and brand recall. So, the study suggests this future research.

- Measuring the level of spread of the CE behavior dimensions either among academicians or service organizations.
- Future research should examine customer-brand engagement through the lens of various comprehensive models that incorporate more theoretically related service constructs such as trust, commitment, and customer delight.
- Investigating how service firms' activities, in conjunction with customer strategies, can achieve and affect customer-brand engagement states, and how this process can positively influence customers' value experiences with the service firm/brand.

Finally, this study suggests another future research:

- Many other variables such as social class may be playing a moderating role and offers an area for future research.
- The process of building a brand community within social media network represents an interesting field for future research.
- Investigating a study that differentiate between the customer engagement of new customers and ongoing customers based on quality of relationship, time of relationship, satisfaction with the previous purchase, and customer support.
- The role of artificial intelligence technologies increasing DCE.
- The effect of artificial intelligence technologies on actual purchasing decision and increasing sales.
- Neuroscience and Cognitive Processing: Integrating insights from neuroscience to understand cognitive processes involved in digital consumer engagement and brand recall could open new avenues for research.
- As the digital landscape continues to evolve, future research should adapt to encompass emerging trends, technologies, and platforms to provide a more comprehensive understanding of the mediating role of digital consumer engagement in brand recall.

5.5 Conclusion

The current study aimed to investigate the impact of DCE dimensions on brand recall in the context of followers of top fashion brands on social media platforms. Additionally, investigating the differences among users' perceptions toward DCE and its dimensions according to their gender.

Based on the literature review, a model containing these constructs was created. Furthermore, the model's research methodology is discussed in chapter three. The descripto-explonary approach and the quantitative research method were used in the study. The questionnaire was used to collect data for the study. The questionnaire was distributed to social media followers of top fashion brands, and 586 usable questionnaires were collected. The measurement model demonstrated adequate validity and reliability. Similarly, a structural model was created and research hypotheses were tested. The findings indicated that the research hypotheses; H1 was partially accepted and H2 was partially rejected.

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