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# From social interactivity to buying: an instagram user behaviour based on the S-O-R paradigm

Tomáš Ric<sup>a</sup>  and Dragan Benazić<sup>b</sup>

<sup>a</sup>Department of Trade and Finance, Czech University of Life Sciences in Prague, Prague, Czechia;

<sup>b</sup>Department of Marketing, Juraj Dobrila University of Pula, Pula, Croatia

## ABSTRACT

Social networks are one of the largest and fastest-growing marketing tools in the world. Their strength is proven by 3.8 billion users worldwide in 2020. The tool offers great economic potential for a commercial brand. This paper focuses on the social network sought after by the millennials - Instagram. One advertisement on Instagram can reach up to 849 million users. One-third of so-called stories are commercial and 200 million users a day look at a business profile. The aim of this paper is to characterize the influence of interactivity in the form of 'liking', commenting, and sharing on consumer shopping behavior. The partial goal of the paper is to characterize the interests of users on the social network Instagram. The paper is based on the stimulus-organism-response paradigm developed by Howard and Sheth (1969). The research concerns the influence of interactivity on the motives for using Instagram (O) and especially on brand awareness and the intention to purchase (R). Interactivity only influences responses when it is mediated through the individual's motivation to use the application, whether for hedonistic or utilitarian reasons. The data were obtained using a questionnaire and were evaluated using the Confirmatory Factor Analysis and Equation Structural Modelling.

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Social commerce; Instagram; stimulus-organism-response paradigm; consumer behaviour; marketing

## JEL CLASSIFICATIONS

M15; M21; M31; M37

## 1. Introduction

Social networks are one of the largest and fastest-growing marketing tools in the world. Their strength is proven by 3.8 billion users worldwide in 2020 with a year-on-year increase of 9,2% (Kemp, 2020a). Most of these applications are always available through their mobile phones. The use of social networks and its tools for shopping behaviour, but also for the psyche of users, has been the subject of research by the academic sphere, especially in the last ten years. Within social networks, the

**CONTACT** Tomáš Ric  [rict@pef.czu.cz](mailto:rict@pef.czu.cz)

The data that support the findings of this study are openly available in Mendeley Data at <http://dx.doi.org/10.17632/csfrm9c2wc.1>.

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fashion and clothing sector is one of the most common. The fashion sector is among those users of social networks most often searched for, as evidenced in this research.

There are dozens of social networks, of which Facebook is the leader in the number of users. The same company also runs the Instagram platform, which is especially popular with users aged 20–29 due to its simplicity, fast communication, and content based on multimedia formats such as images and videos. Such an application is always available literally at your fingertips through the phone. Fashion, which is the intersection of this research, is presented very simply on the Instagram due to its tools. That is also the reason why the research is focused mainly on this smart-phone platform.

There are 25 million business profiles on this platform, which can target their audience, whether paid or unpaid, to 1 billion users in 2019 (Clement, 2020). Of these, up to 200 million users log in to the application every day, who look at a business profile at least once.

The marketing power of the platform is indisputable. This is especially true for clothing brands, which are among the most sought after. It is the clothing sector that is in the background of this research and demonstrates examples of user behaviour.

The research was based on the Stimulus-Organism-Response paradigm (Mehrabian & Russell, 1974) following similar studies (Dabbous & Barakat, 2020; Erdoğan & Tatar, 2015; Floh & Madlberger, 2013). The SOR framework is widely used in Marketing literature since 1960. The methodology's use is appropriate when the goal of the research is in better explanation of the consumer behavior based on various theoretical constructs (Meffert et al., 2015).

The methodology of S-O-R model focuses on phenomena in society to define the relationships between current incentives and consumer behaviour. Such a relationship is mediated through the so-called black box of the individual. In the example of the clothing sector, the methodology was first used to define the most effective incentives in the brick-and-mortar store environment, then in classic e-shops, and now it is slowly moving to interactive social networks.

In the paper, interactivity on Instagram represents the stimulus, the motivation to use represents the organism, and the brand awareness and intention to use represents the reaction of behaviour.

Interactivity is one of the core innovations of these platforms compared to previous static web presentations. The goal of this study is to prove that the availability of information collected during the interaction ('liking', commenting, and sharing) of different users with the brand owner and other members on Instagram, significantly affect consumer shopping behaviour.

The partial goal of the paper is to characterize the interests of users on the social network Instagram. The study enriches the existing marketing literature with a more detailed look at the interactivity on the Instagram social network, which is becoming increasingly popular. The marketing literature, which dealt with social networks, considered mostly Facebook. The study also extends the existing S-O-R models, which were modelled according to the contemporary context, first for brick-and-mortar stores, later for e-commerce and currently for social networks.

The rest of this study is structured as follow. In the Theoretical Background section, the extant literature is reviewed on social commerce, S-O-R paradigm, and S-O-R in fashion retail. Then a theoretical foundation for forming hypotheses and a research model is presented. Methods follow before the Results. In the discussion section, we go through key findings and discuss their theoretical and practical implications as well as limitations of this paper.

## 2. Theoretical background

### 2.1. Social commerce

Consumer behaviour in various shopping environments has been the subject of academic sphere since the mid-20th century. During that time, consumer behaviour was verified in the most traditional brick and mortar store, in e-commerce environments such as traditional websites and e-shops (Eroglu et al., 2003; Floh & Madlberger, 2013) to the social-commerce environment today (Busalim et al., 2019; Chen & Yao, 2018; Cho & Son, 2019; Dabbous & Barakat, 2020; Erdoğan & Tatar, 2015). The last-mentioned category is the newest and least explored area. As evidenced by (Zhang & Benyoucef, 2016) and (Busalim et al., 2019) in their review studies, the topic has considerable research potential.

Social media are online applications, platforms and media which aim to facilitate interactions, collaborations and the sharing of content (Richter & Koch, 2008). Social commerce is defined in several different ways (Animesh et al., 2011; Dabbous & Barakat, 2020; Eroglu et al., 2003; Kim & Ko, 2012; Kostyra et al., 2016), but all studies agree on the importance of interaction that this social environment defines.

Social commerce platforms can be divided into two groups: (1) social networks that adopted commerce features so they allow advertising and financial transactions; and (2) the traditional e-commerce website is known as e-shop that adds social networking elements for users so they can interact (Pöyry et al., 2013).

Users of social media platforms such as Facebook reported to be driven by several motivators such as a wish for entertainment, wish to stay informed and the desire to know the social activities of friends (Kietzmann et al., 2011; Quan-Haase & Young, 2010). Recent studies have also pointed out that social network sites are often used for self-promotion and exhibitionism purposes (Najmul Islam et al., 2019). As such, social network sites differ from instant messaging, which is more personal, less self-promoting, more direct and driven by a wish to maintain and develop relationships (Quan-Haase & Young, 2010).

Para-socials theory developed by Horton and Wohl (1956) describes an illusion of intimacy as for the 'real' interpersonal relationships. In the context of social networks, it is developed by Labrecque (2014) or Lee and Watkins (2016), who agree on the illusory nature of two-way communication on social networks. The Influencer is also defined by three characteristics established for celebrities as early as 1958 by Kelman (1958), and these are: authority, creditworthiness, attractiveness.

The importance of social media in today's market economy is indisputable. Worldwide, social media is used by 3.48 billion users in 2019, of which 3.256 billion users use social networks on their mobile devices. This is a 10% increase over 2018.

Most social network users are aged 18–24 and 25–34. The three largest social networks in terms of number of users are Facebook (2.271 billion), YouTube (1.900 billion) and Instagram (1 billion) (Kemp, 2020b).

In 2019, the most popular social media platform Facebook had over 1.5 billion registered users, 62% of which use the platform for keeping up with news (Thompson et al., 2020).

Social networks are a very important marketing tool. They shape the way companies and brands engage and communicate with consumers, especially millennials (Dabbous & Barakat, 2020). Kim and Ko (2012) show that 70% of consumers visited a social network to learn more about the brand, and almost half of customers bought based on information found on social networks.

### **2.1.1. Instagram**

Instagram, the social network that this study focuses on, is an online, mobile phone, photo-sharing, and social network service that allows users to take photos and videos that they share on this platform (Frommer, 2010). The main idea is to use hashtags (#) in the description of posts so that other users can easily find them.

Instagram is more personal compared to other social networks. People tend to share more of their privacy and home (Shane-Simpson et al., 2017).

There are many motives for using Instagram, which are mainly based on psychology. Examples are social activity, economic security, interpersonal interaction, life satisfaction, mobility (Rubin & Rubin, 1982) or narcissism which leads mainly to active self-promoting users (Buffardi & Campbell, 2008).

One of the driving forces of motivation is also creative enjoyment, the results of which can be shared by people and other users with the same interests can be sought (Sheldon & Bryant, 2016). One of the theories dealing with motivations for the use of social networks is the Use and Gratification theory first developed by Katz et al. (1973). The theory is based on the personal needs of users, such as escape from problems, emotional release, self-understanding, surveillance (Wu et al., 2010).

The influence of Instagram is also proved by the 2020 statistics, 63% of 1 billion people log in to the application every month, 500 million users actively use the 'stories' application every day, regular user spends 28 minutes a day in the application, and what is even more interesting for the commercial sphere is that one advertisement on Instagram can reach up to 849 million users, one third of stories are commercial and 200 million users a day look at a business profile (Newberry, 2021).

## **2.2. S-O-R paradigm framework theory**

The first models of shopping behaviour are formulated from the beginning of marketing knowledge at the beginning of the 20th century. The development of models, in fact the development of consumer or buyer knowledge, as well as development itself, is a never-ending multidisciplinary process (Jacoby, 2002).

The S-O-R paradigm, stimulus - organism - reaction is introduced by (Howard & Sheth, 1969) and developed by Mehrabian and Russell (1974) The stimulus (S) is the stimulus for the reaction, the organism (O) represents the internal decision-making

of the potential customer, and the reaction (R) is the result of the whole process (Bagozzi et al., 1999; Jacoby, 2002; Sherman et al., 1997).

The S-O-R framework is based on the assumption that environmental cues influence people's cognitive or emotional responses, which subsequently influence their consumption behaviours (Mehrabian & Russell, 1974).

Howard and Sheth (1969) present three basic areas of stimuli: (1) significant stimuli, (2) symbolic stimuli, and (3) social stimuli. Significant variables, such as price, quality, services, availability, etc., are defined from the perspective of the trader. The symbolic incentives deal with the same variables, but from the point of view of the consumer, for whom they may have a different, 'symbolic' value. According to (Kotler & Keller, 2007, p. 222) incentives are divided into: (1) marketing incentives and (2) other incentives.

The Buyer phase (O) is divided by (Howard & Sheth, 1969) into two sub-phases: (1) the perceptual phase and (2) the learning phase. In the perceptual phase, stimuli act on the customer's senses, while in the learning phase, perceived stimuli are subjected to analysis, comparison with experience and other motives and stimuli. Bettman (1979) emphasizes the importance of memory that can be used in the learning phase. According to (Kotler and Keller, 2007, p. 212–215) the shopper (O) is determined by cultural, social and personal factors.

The last, output phase of the model is the reaction (R). In the positive case, the Howard and Sheth model (1969) always ends with buying as a reaction (R) in buying behaviour.

### **2.2.1. Fashion as an example**

Within social networks, the fashion and clothing sector is one of the most common. The fashion sector is among those users of social networks most often searched for, as evidenced by the answers to the open questions in this research see 'results'. The example of the fashion sector also shows how the S-O-R paradigm is evolving and how the perception of the importance of stimuli is evolving.

Christopher et al. (2004) characterize the clothing sector from an economic point of view by the following four characteristics: short product life cycle, high demand volatility, low demand predictability, and high impulsive purchasing. Online shoppers of clothing products are found to be more impulsive than offline shoppers (Donthu & Garcia, 1999).

Buying impulsiveness is defined as a consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically. An impulse purchase is defined as a purchase that is unplanned, the result of exposure to a stimulus, and decided on the spot (Piron, 1991). An impulse purchase is a critical issue in online shopping, a survey shows that approximately 40% of all money spent on e-commerce is from impulse buying (Verhagen & van Dolen, 2011), almost 90% of consumers have the experience of making purchase impulsively (Hausman, 2000).

Visual merchandising includes interior displays, store layout, in-store displays, atmospherics, light, music, scents, colours, and signage, which is used by retailers to attract customers to enter their stores and to stimulate unplanned purchases.

While Wirtz et al. (2007) found that store environmental stimuli such as social factors (e.g. perceived employee friendliness) positively affect impulse buying behaviour.

In social commerce conditions, social factors can be replaced by the term interactivity, which is the subject of this research.

### 3. Model constructs and hypotheses

This paper is based on the S-O-R paradigm. The following section describes how the model, and its constructs were created. The section also describes on what literary basis hypotheses were built.

#### 3.1. Interactivity

Interactivity is defined as a user's perception of taking part in two-way communication with a mediated persona in a timely feedback (Labrecque, 2014). By Steuer (1992) it's an extent to which one can control the virtual environment in modifying the form and the content of the environment (Steuer, 1992).

A high level of interactivity in a virtual world creates a sense of autonomy and control in the participant's mind, which can instil and reinforce a sense of enjoyment. It helps to define who they are and who they want to be. Interactivity increases the sense of flow (Novak et al., 2000).

Social media is a better platform for managing interactions with the consumers compared to traditional media because of its Web 2.0 qualities. Consumers like to interact on real-time basis with the seller to ask questions, tell and exchange their opinions on social media. This two-way communication is an important driver of brand engagement, making up its essence (Hollebeek, 2011). Accordingly, previous research also defined interactivity as a primary antecedent of brand engagement.

On Instagram, tools such as the 'I like' button, sharing of content, comments, savings are used to mediate interactivity. It's very easy to communicate directly with a person or mainly with a brand you follow through the direct chat. Bozkurt et al. (2021) confirm that when customers perceive a brand to be highly interactive on social media (versus interactive), they are more willing to buy brand offerings, refer to the brand in exchange for monetary incentives, inform their family and friends about the brand and provide the feedback.

Research shows that nearly 40% of social media users had purchased a product after sharing or favouring it on social media sites (Pelet & Papadopoulou, 2013).

*H1: Interactivity on Instagram positively influences the motivation to use.*

*H2: Instagram interactivity is positively correlated with purchase intention.*

*H3: Instagram interactivity is positively correlated with brand awareness.*

#### 3.2. Motivation to use

Stimuli's impact on the customer's response is mediated by internal motives (Organism). Hedonic and utilitarian motivation is then examined and considered as the individual's cognitive and affective states including feelings and thoughts

(Erdoğmuş & Tatar, 2015). There is a construct Motivation to use in the proposed model that refers to this internal phase of the paradigm.

Hedonic and utilitarian types of motivation are not divided in the proposed construct and are perceived as one homogeneous internal phase or 'black box' of the personality.

Hedonic motivation refers to the entertainment factor associated with certain activities, in this case, it is the result of the fun and play that emerges from using social media (Agichstein et al., 2008). From a hedonic point of view, social media users are considered pleasure-seekers who are being entertained and amused, while experiencing enjoyment.

Utilitarian motivation is defined as rational and goal-oriented, it relates to effectiveness and instrumental value (Voss et al., 2003). When accessing social media, customers can judge the outcome according to a utilitarian value, just as they might assess shopping or service encounters. Accordingly, utilitarian consumers who are motivated to use social media sites of a specific brand are concerned with finding content that is useful and suits their purpose (Pöyry et al., 2013).

The term 'motivation to use' does not refer only to the first impulse on using the application but refers also to the motivation of using the platforms for a longer period with greater intensity.

*H4: Motivation to use is positively correlated with brand awareness.*

*H5: Motivation to use is positively correlated with purchase intention.*

### **3.3. Brand awareness**

Social media has quickly changed the contemporary marketing approach. It has established a connection between marketers and other consumers, creating new possibilities and opportunities with the aim of increasing consumer brand awareness.

Brand awareness denotes the ability of a consumer to recognize and recall a brand in different situations (Aaker, 1996). Brand recall reflects the ability of consumers to retrieve the brand from memory when given the product category, the needs fulfilled by the category, or some other type of probe as a cue. Brand recognition reflects the ability of consumers to confirm prior exposure to the brand (Chandon, 2003).

With increasing brand awareness, it is easy for customers to get to know the brand and its products outside the social site, they have more information about the brand, and they know more facts about it.

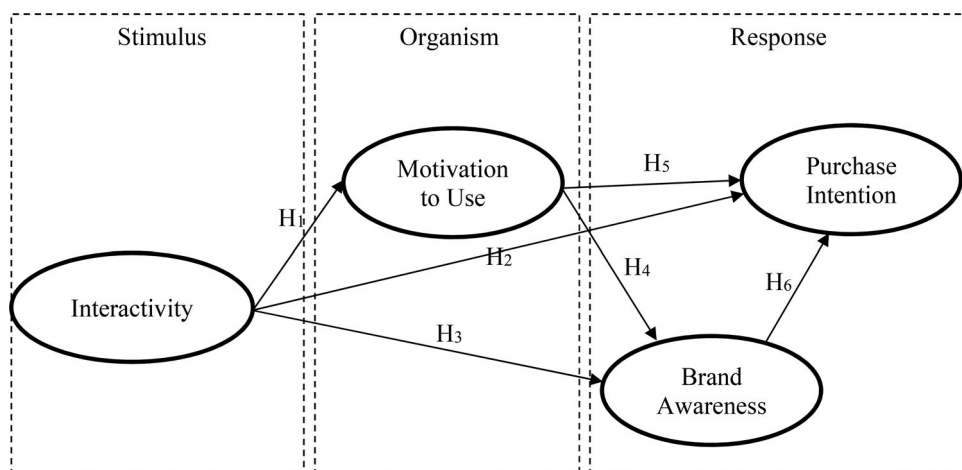
Companies using social platforms for their brands can promote them and create awareness then turn this awareness into purchase intention (Evans & Bratton, 2012).

*H6: Brand awareness positively influences a customer's intention to buy.*

### **3.4. Purchase intention**

Ajzen (1991) suggested that intentions are presumed to be an indicator of to what extent people are willing to approach certain behaviour and how many attempts they are trying in order to perform a certain behaviour. Lack of intention to purchase online is the main obstacle in the development of electronic commerce (Figure 1).





**Figure 1.** Research model.

Source: Authors.

Baker et al. (1994) defined purchasing intention as a probability that lies in the hands of the customers who intend to purchase a particular product. Customer's decision to buy a product (purchasing intention) depended largely on the product's value and recommendations that other consumers have shared, for example on social media. The application of firm-created advertising together with user-generated word of mouth (WOM) leads to spontaneous forwarding and recommendations by users who find the brands worthy of consideration (Hoy & Milne, 2010).

It should be acknowledged that purchase intention does not refer only to purchase action (Kim & Ko, 2012), but also to thinking about such activity.

*H7:* Motives mediates the positive effect of Interactivity on Brand Awareness

*H8:* Motives and Brand Awareness mediates the positive effect of Interactivity on Purchase Intention.

#### 4. Methodology

This study is divided into three parts according to the selected S-O-R framework (Table 1). The interactivity construct is contained in the first part (S). The second part (O) referring to the internal phase of the individual is composed of Motivation to use. The third final part reporting the result (R) contains two constructs - Brand Awareness and Purchase Intention. Each of these constructs consists of three items, which are specified in more detail in Table 2.

Data were collected via software Google Forms and only those respondents who answered that they actively use Instagram application were considered in this paper.

The second part of the questionnaire consisted of open and semi-open questions, which aimed to find out more detailed specifications of respondents' interest on Instagram. The third part of the questionnaire was focused on identification with the given statements, which were part of the constructs described above. These results were included in the test model. The answers were on a 5-point Likert type scale

**Table 1.** Demographic data of the sample.

		Frequency	Percentage	Cumulative Percentage
Active IG users *	Yes	534	80,2%	80,2%
	No	130	19,5%	99,7%
	I don't know	2	0,3%	100,0%
	Total	666	100,0%	
Age	<19	61	11,4%	11,4%
	20–29	369	68,8%	80,2%
	30–39	42	7,8%	88,1%
	40–49	47	8,8%	96,8%
	50–59	14	2,6%	99,4%
	60–69	3	0,6%	100,0%
	>70	0	0,0%	100,0%
	TOTAL	536	100,0%	
Gender	Female	357	66,6%	66,6%
	Male	177	33,0%	99,6%
	Other	2	0,4%	100,0%
	Total	536	100,0%	
Occupation **	Student	345	64,4%	
	Employee	309	57,6%	
	Entrepreneur	43	8,0%	
	Other	18	3,4%	
	Out of	536		
Monthly income (EUR)	less than 500	198	36,9%	36,9%
	501–1000	147	27,4%	64,4%
	1001–1500	106	19,8%	84,1%
	1501–2000	49	9,1%	93,3%
	2001–2500	18	3,4%	96,6%
	more than 2500	18	3,4%	100,0%
		536	100,0%	475,4%

Notes. \*Total number of respondents. Furthermore, only those who actively use Instagram are included.

\*\* Respondents should select all answers that are correct.

Source: Authors.

from I absolutely disagree (1) to I absolutely agree (5). The fourth and last part was focused on demographic data.

The data were evaluated using IBM SPSS STATISTICS version 26. The model itself was evaluated by Confirmatory Factor Analysis and SEM methodology in SPSS AMOS based on the description of Janssens et al. (2008).

The data has been cleared of missing data. Due to the chosen methodology, it was necessary to remove the so-called outliers. Values were converted to standardized and those outside the  $< -3$ ;  $3 >$  range were removed. It was less than 5% of them in total (Sharmna, 2018).

Since the data were collected from the same source for all constructs, common method bias (CMB) can be considered. To avoid this problem, the individual questions for the constructs were mixed with each other so that the respondents did not need to answer more positively than reality. Finally, CMB was tested using Harman's single factor test whose total variance is 36,802 which means that CMB does not affect the data (Podsakoff et al., 2003).

**Table 2.** Confirmatory factor analysis results.

Construct	Estimates		Squared multiple correlations (SMC)	Composite reliability (CR)	AVE	Cronbach's alpha
	Factor loading	Standardized error				
Interactivity				0,804	0,454	0,707
I1	0,749	0,251	0,561			
I2	0,598	0,402	0,357			
I3	0,665	0,335	0,442			
Motivation to use				0,749	0,386	0,642
MU1	0,568	0,432	0,511			
MU2	0,715	0,285	0,323			
MU3	0,569	0,431	0,324			
Brand awareness				0,915	0,674	0,850
BA1	0,875	0,125	0,766			
BA2	0,894	0,106	0,798			
BA3	0,677	0,323	0,458			
Purchase intention				0,916	0,669	0,847
PI1	0,856	0,144	0,733			
PI2	0,817	0,183	0,667			
PI3	0,778	0,222	0,605			

Source: Authors.

#### 4.1. Sample and data collection

The online software Google Forms was used for the quantitative part of the research. The questionnaire was distributed to students at the Czech University of Life Sciences in Prague, who had the task of addressing five other respondents. It was possible to answer the questionnaire in the period from 1 to 31 October 2020. The questionnaire itself was divided into three parts.

Only those respondents who actively use this application were included in the research of the influence of Interactivity on Instagram on shopping behaviour. For this reason, the following question was asked at the beginning of the questionnaire: Did you use Instagram in the last 30 days? Only those respondents who answered 'yes' were included in the research. Those respondents who answered 'no' filled in only demographic data.

#### 4.2. Measure

This study adopted parts of the questionnaire from other studies. The constructs in the new model were tested in a pilot test. The original constructs, measurement items of each construct are in Table 2. The findings of the following authors were used for individual constructs: Interactivity (Carlson et al., 2018; Cho & Son, 2019; Coyle & Thorson, 2001), Motivation to Use (Cho & Son, 2019; Novak et al., 2000), Brand Awareness (Dabbous & Barakat, 2020; Tong & Hawley, 2009), Purchase Intention (Cho & Son, 2019; Dabbous & Barakat, 2020; Husnain & Toor, 2017).

The model analysis was divided into two parts, as recommended by Janssens et al. (2008). In the first phase, the Confirmatory Factor Analysis (CFA) was used to verify the validity and reliability of the model. In the second step, the structural model was verified using Structural Equation Modelling (SEM).

Before the CFA it is necessary to do an Exploratory Factor Analysis using Principal Component extraction and varimax rotation. The KMO measure of sampling adequacy was verified 0.878 ( $>0.6$ ) Bartlett's Test of Sphericity is 66 ( $>0.05$ ). The model consists of four main components (Interactivity, Motivation to Use, Brand Awareness and Purchase Intention) that enter the CFA.

For to the CFA model, it is necessary to meet the assumptions of the model. All three assumptions were met: the data are of an ordinal nature, different variables are considered, there were ten times more respondents than the variables.

### **4.3. Model fit**

The model shows very good global fit indices:  $\chi^2 = 128,055$ ;  $df = 48$ ;  $CFI = 0,971$ ;  $TLI = 0,960$ ;  $GFI = 0,962$ ;  $NFI = 0,964$ ;  $RMSEA = 0,056$ ;  $PC-MIN = 2,668$  (Hooper et al., 2008) as well as highly satisfactory measurement properties for the scales. All factor loadings are highly significant ( $p < 0,001$ ) and exceeded the suggested threshold 0,5 demonstrating a high level of convergent validity in the measurement model (see Table 2) (Janssens et al., 2008). For factor loading values  $>0.5$  it is necessary to have a sample size larger than  $N = 450$ . This criterion is met.

The composite reliability is higher than 0,7 as recommended by Janssens et al. (2008) for all four constructs: Interactivity, Brand Awareness, and Purchase Intention. The composite reliability of the construct Brand Awareness 0,640 is acceptable due to sampling size, which is  $>500$  (Hair, p. 207, 2010). AVE is supposed to be higher than 0,5 but if the composite reliability is higher than the acceptable level of 0,6, the criterion is met (Lam, 2012), which is agreed by Fornell and Larcker (1981) the convergent validity of the construct is still adequate. Cronbach alpha's good fit is above 0,7 while values 0,6-0,7 also indicates an acceptable level of reliability (Ursachi et al., 2015).

The determination of discriminant validity values was determined by the Heterotrait-Monotrait Ratio of Correlations (HTMT). All values have to be under 0,9, then the model is validated.

## **5. Results**

### **5.1. Direct effects**

In the first phase, the relationship between the stimulus Interactivity and Motivation to use, Purchase Intention, and Brand Awareness was considered. The effect of Interactivity on Motivation to use is highly significant ( $p < 0.01$ ) with the highest standardized parameter with a positive value of 0.879. The effect of Interactivity on Purchase Intention ( $p = 0.381$ ) and Brand Awareness ( $p = 0.197$ ) is not significant. While H1 is supported, H2 and H3 are not supported.

Another set of hypotheses assumes the effect of Motivation to Use on Brand Awareness and the effect of Motivation to Use on Purchase to Intention. The effect on Brand Awareness is significant ( $p < 0.05$ ) with the value of the standardized parameter 0.714. Motivation to Use has no significant effect on Purchase Intention ( $p = 0.071$ ). H4 is supported, while H5 is not.

**Table 3.** Heterotrait-Monotrait ratio of correlations.

HTMT ratio	Interactivity	Motivation to use	Brand awareness	Purchase intention
Interactivity				
Motivation to use	0,88612926			
Brand awareness	0,42800681	0,53598758		
Purchase intention	0,45403983	0,57960426	0,76991487	

Source: Authors.

The last group of considered hypotheses examines the influence of Brand Awareness on Purchase Intention ( $p < 0.01$ ). This effect is highly significant with a value of standardized estimates of 0.582. H6 is supported. All results are shown in Table 3.

### 5.2. Indirect effects

Within the basic model, it was found that Interactivity has a significant effect on Motivation to Use, which affects Brand Awareness, which has a significant effect on Purchase Intention. Based on these results, the first indirect effect was adopted. Motivation to Use mediates the positive effect of Interactivity on Brand Awareness ( $p = 0.000$ ) with the value of parameter 0.958 (Table 4).

Furthermore, it was found that the relationship can have two mediators: Motivation to Use and Brand Awareness mediates the positive effect of Interactivity on Purchase Intention ( $p = 0.007$ ) with a value of estimate 0.593.

H7 and H8 are supported.

### 5.3. Additional findings

The questionnaire also included semi-open questions, the aim of which was to gain a deeper understanding of the behavior of Instagram users, their interests, and preferences. The results of this part of the questionnaire for 536 respondents are below. Respondents could always choose more than one possible answer.

The most-watched segment is Fashion (34.9% of users). It is the fashion sector that is characterized by the impulsiveness of shopping, which is very closely linked to the impact of social networks and their incentives on consumers. Users who shop online have a greater tendency to be impulsive than those who shop offline (Floh & Madlberger, 2013) The second most-watched sector is Sport (17.9%), followed by Cars (6.5%), Electronics (4.7%), and other categories (11%). 44.8% of users stated that they did not follow any commercial profiles. These users use social networks to keep track of their friends and family.

Respondents answered separately the question of whether they follow clothing brands on Instagram. 55.8% of respondents said yes, while 42% said they did not follow such brands. 2.2% of respondents did not know. At first glance, it may seem that the values do not correspond to the results of monitoring individual sectors, but the sports sector is often considered to be clothing. Thus, the deviation of the results is minimal and results from the possible different interpretations of the question.

**Table 4.** Results.

Hypotheses	Relationship		Path coefficients	Test results	
H1	Interactivity	→	Motivation to use	0,879	Supported*
H2	Interactivity	→	Purchase Intention	-0,163	Not supported
H3	Interactivity	→	Brand Awareness	-0,268	Not supported
H4	Motivation to use	→	Brand Awareness	0,714	Supported**
H5	Motivation to use	→	Purchase Intention	0,435	Not supported
H6	Brand Awareness	→	Purchase Intention	0,582	Supported*
H7	Interactivity → Motivation to Use →			0,958	Supported*
	→ Brand Awareness				
H8	Interactivity → Motivation to Use →			0,593	Supported*
	→ Brand Awareness → Purchase Intention				

Notes. \* $p < 0,01$ , \*\*  $p < 0,05$ .

Source: Authors.

Those respondents who answered the previous question in the affirmative should indicate what type of clothing they are interested in on social networks. The answers are as follows: Trends (16.6%), Streetwear (20.5%), Formal Wear (9.5%), Others (9%), None of them (9%)

## 6. Discussion

The key finding of this study is the effect of interactivity on shopping behavior through Motivation to use. The very interactivity factor on Instagram, such as 'liking', commenting, sharing posts, does not encourage shopping behavior, and does not even lead to brand awareness. Interactivity must affect the internal motives of the individual, both hedonic and utilitarian motives. Only the Interactivity mediated by Motivation to use influences shopping behavior and the spread of brand awareness. If the Instagram user does not find this activity of using Instagram fun or useful, then there will be no positive behavior of the individual in relation to the brand.

### 6.1. Research implications

The methodology of this study was based on the S-O-R paradigm, which is very often used for the analysis of marketing sciences. Its application in the fashion sector has so far been used mainly for research in brick-and-mortar stores (Afonso Vieira, 2013; Anić et al., 2018; Chebat, 2002) and in traditional e-commerce (Animesh et al., 2011; Ettis, 2017; Floh & Madlberger, 2013; Thomas & Mathew, 2018).

This study builds on the research of many authors who have addressed the issue of social networks (Erdoğan & Tatar, 2015; Eroglu et al., 2003; Kim & Ko, 2012). Until now, the subject of research has mostly been social networks as such without division. In the case of targeted studies, Facebook dominates as the main social network examined (Dehghani & Tumer, 2015). This paper complements previous research on the emergence of the emerging dominant social network on Instagram, specifically on the effect of interactivity on consumer shopping behavior.

For an overview of research on social commerce, we recommend a review study by Zhang and Benyoucef (2016).

## **6.2. Managerial implications**

For individual brands and profiles to arouse the interest of their followers on social networks, it is necessary to provide them with such content that they will enjoy and find useful. Content that does not meet these criteria will not increase brand awareness, not even the shopping behavior. At the same time, it is necessary to encourage interactivity with consumers. Such behavior will lead to positive shopping behavior and to achieving the goals of the company.

What content is fun and useful depends on each individual brand. The content should always be customized to the target group. This requires additional commercial research.

## **6.3. Limitations**

The biggest limit of the research is considered to be the method of data collection. The sample is distorted by the method of data collection, which were collected in cooperation with students at the Czech University of Life Sciences in Prague, whose task was to ask other respondents. The average age of the respondent is 26 years, which does not correspond to the average age of the population of the Czech Republic. The average age in the Czech Republic was 42,5 years in 2017 (Czso.cz, 2020). We can assume that other age categories behave differently in relation to social networks. Nevertheless, we consider the results to be relevant and informative about the behaviour of Instagram users.

In this study, 68,8% of Instagram users are in the 20–29 age category, while according to the results of the Hootsuite platform (Newberry, 2021), 59% of users were in this category. In the category between 30–40 years, in the case of this study, 7,8% of users are, while according to the University of London, it is 33%. We differ in these findings, and it can be assumed that this is due to the distribution of the methodology of the research.

Another limitation is the absent sub-section of Motivation to use. In future research, we recommend dividing this construct into Utilitarian Motives and Hedonic Motives to determine the strength of their influence. Such results will help managers to target marketing campaigns more effectively.

The limit, but not the drawback, of this research is the small number of stimuli examined. In future research, it will be appropriate to analyse more elements entering the model. For example: colour combinations of content, labels, frequency of contributions, quality of content, etc. as independent variables and its influence on brand awareness and purchase intention as dependent variables.

## **7. Conclusion**

Social networks are a communication and mainly marketing tool, the understanding and proper use of its tools are crucial for some business fields and their success in the market. With the gradual development of social network platforms, it is appropriate to select which tools on a given platform serve the goals we require, and which

do not. This study focused only on the aspect of interactivity that is the most important advancement since static web presentations.

The key finding of this study is the effect of interactivity on shopping behaviour through Motivation to use. The very interactivity factor on Instagram, such as 'liking', commenting, sharing posts, does not encourage shopping behaviour, and does not even lead to brand awareness. Interactivity must affect the internal motives of the individual, both hedonic and utilitarian motives. Motivation to Use has a significant effect on Brand Awareness but has no effect on Purchase Intention. Brand Awareness affects Purchase Intention.

The most important finding is the indirect significant relationship, which defines the whole process of the influence of interactivity. Only the interactivity mediated by Motives to use has an effect on shopping behaviour and the spread of brand awareness. If the Instagram user does not find this activity of using Instagram fun or useful, then there will be no positive behaviour of the individual in relation to the brand.

Commercial profiles can support the interactivity of their followers with various challenges, competitions and questions and thus help their own economic interests. All this will contribute to the increase of brand awareness and the instinct of behaviour. Such activity is especially important for clothing brands, which are the most sought after a commercial field on social networks.

It is important to realize that interactivity is only one of many stimuli that affect consumers on Instagram. For a comprehensive idea, it is necessary to deal with more detailed elements, such as the effect of commenting separately, as well as sharing or tagging other profiles.

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## ORCID

Tomáš Ric  <http://orcid.org/0000-0002-3490-3772>

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