Importance of Visual Alignment between SMIs and Brands

A Quantitative Research

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Abstract

The state of influencer marketing through opinion leaders has shifted immensely throughout the last decade. Traditional influencer marketing heavily relied on celebrities and their popularity in order to market their products. Nonetheless, with the development and the establishment of social media this factor has changed, where now non-celebrities have gained immense power through their popularity on social media. Therefore, marketer have shifted their attention to the social media influencers and start utilizing them for their advertising strategies. It has been shown that consumers have a preference for visual communication, which has become through the nature of social media more and more important. Another aspect that is crucial in terms of marketing and SMI is the factor of source credibility. Literature argues that source credibility is highly important and has a significant effect on the consumer's BA and the advertisement itself Therefore, it is possible to question the aspect of visual eWOM induced through SMIs, which does not reflect their image from the perspective of their audience. In order to answer such, it has been proposed that the visual alignment between the SMI and the brand itself has a significant and positive effect on their credibility and therefore BA. Therefore, the previously stated research question has been developed: To what extent does the visual depiction of social media influencers and brands' Instagram posts - and their alignment - affect the social media influencer's credibility, and the consumer's brand attitude and purchase intention? Hence, an online experiment was conducted, which based on the hypotheses to answer this question. In order to obtain data on this manner, a quantitative approach was chosen to conduct analyses. Therefore, an experiment with six distinct visual conditions was created, were visual alignment was computed through topic modeling and computer-mediated distance calculations. Furthermore, the factor of source credibility was analyzed for its mediating effects on brand attitude. The analyses yielded diverse results, and demonstrated a negative mediation effect; meaning that whenever credibility is relevant the effect of visual alignment increases. Furthermore, it showed that visual alignment is a determining factor for credibility and brand attitude. These results add to the findings of existing literature and therefore, yield relevancy.

Keywords: Social Media Influencer, Brands, Topic Modeling, Visual Alignment, Social Media Marketing

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Abbreviations

BA	Brand Attitude
DMP	Decision Making Process
eWOM	Electronic Word-of-Mouth
HOE	Hierarchy of Effects
PI	Purchase Intention
SMI	Social Media Influencer
SNS	Social Networking Site
WOM	Word-of-Mouth

Introduction

The usage of popular individuals is a rather familiar approach in regard to attracting consumers' attention in advertising. Implementing opinion leaders into one's advertising and marketing strategies allows brands to generate unique advertisements and engender increased intentions concerning attitude and purchase intentions (Ranjbarian, 2010). Such undertaking has been popular for decades, for example in 1979 one out of every six promotional films or advertisements made use of celebrities, which until 2001 amounted to 25% of the commercials (Erdogan, Baker, & Tagg, 2001). Moreover, it has been stated that the act of paying famous people to endorse a brand's products is a concept with high selling potential and therefore is likely to persist as a marketing strategy. This is due to the fact that Western media is saturated with information and news about celebrities and their lives, making western society receptive to them (Choi & Rifon, 2007).

Recent developments in technology have led to the emergence of the social web, which has become a vital part of the modern human's everyday life, including commerce. Various social media, and especially Social Networking Sites (SNS), play a crucial role. In the year 2016, around two billion people were using social media platforms (Woods, 2016). Providing multiple ways of delivering information and messages, these platforms allow the consumer to experience various types of media. Instagram, for instance, is a photo and video focused platform, where users provide each other with visual content, whereas YouTube is a video focused platform, which primarily allows users to share their video content. As part of its increase in global popularity, social media has developed into an essential part of online marketing, changing the way brands approach their audience and market their products (Perrin, 2015). This trend can be traced back, among other aspects, to its tremendous reach, and the ability to tailor content and to direct it to a specific audience, which coincided with its increase in global popularity. The adoption of social media into digital marketing has become vital for brands, since modern humans have been consuming less and less traditional media, such as radio and television, and instead demand quick and reliable access to information (Mangold & Faulds, 2009). To that end, it has been argued that social networking sites have an immense impact on the consumers' purchase decision, whereby 74 % of respondents admitted to having been influenced by social media regarding their purchase decision (Braatz, 2017). One reason for that conscious or unconscious behavior is that consumers, nowadays, have developed tremendous trust in their

peers and therefore rely heavily on word-of-mouth (WOM) recommendations (Lu, Chang, & Chang, 2014a). In addition to that, studies have shown that consumers tend to confide in electronic word-of-mouth (eWOM) or WOM more than traditional advertising (Wu & Wang, 2011). Hence, it is reasonable to argue that the effect of traditional media and advertisements connected to that media have lost a tremendous amount of popularity due to the shift of perspectives from the consumers' side.

Furthermore, with the growth of social media, various personalities have been able to utilize its tremendous reach and build an audience. Those kinds of people are typically referred to as social media influencers (SMIs), or opinion leaders (OLs) (Puigbo, Sánchez-Hernández, Casabayó, & Agell, 2014), who are generally characterized by their ability to persuade their audience (Freberg, Graham, McGaughey, & Freberg, 2011; Veirman, Cauberghe, & Hudders, 2017). One avenue for their influence is eWOM, which, through trust in the source, may be considered as trustworthy by receivers, and thus can be considered more effective than the conventional ways of advertising (Veirman et al., 2017; Vries, Gensler, & Leeflang, 2012). Based on this premise, influencer marketing has emerged as a tool for brands to reach a broader audience. Brands actively reach out to SMIs by directly sponsoring them or by sending goods free of charge (Braatz, 2017). As mentioned previously, social media comprises different platforms, which vary in their way of delivering content. Image-centric Instagram has been utilized immensely by brands as a mean of visual advertising to large masses. Its utility can be attributed to the fact that styles and variety of visual depictions of products influence brand attitude and purchase intention (Elder & Krishna, 2011; A. A. Mitchell, 1986). In addition to that, Rossiter (1982) stated in his paper that images are notably better in terms of learning, which is immensely important for brand awareness and brand beliefs.

Therefore, the ramifications of SMIs, visual eWOM, and the effects of a product's visual depiction - in posts made by both the brands themselves and influencers representing the respective brand on potential consumers - are not entirely clear. The question arises, whether, if product depiction between an SMI and a brand are aligned, the consumer would be more favorable towards the product and their advertisers (i.e. the SMI and brand)? Therefore, the focus of the thesis will be to answer the following research question:

To what extent does the visual depiction of social media influencers and brands' Instagram posts – particularly their alignment to the brand - affect the SMI's credibility, and the consumer's brand attitude and purchase intention?

Relevance

Academic Relevance

A multitude of recent research has dedicated their efforts into investigating the visual presentations of products online and their effect on consumer behavior (Yoo & Kim, 2014). Mitchell (1986) has shown that the visual component of an advertisement has an effect on consumers. The study concluded that consumers' brand attitude is affected by visual components, such as positively connoted images. A more recent study conducted by Elder and Krishna (2011) has investigated such influence in more depth, showing that the depiction of a product does have an effect on a consumer's purchase intentions. Nonetheless, studies focusing on the alignment of visual representation of products between SMI and the brand itself have not been conducted.

Previously conducted studies have also solely focused on the relationship between brands and influencers, and how they can benefit from the implementation of SMIs into their digital marketing strategy. As discussed in the paper by Wu and Wang (2011), eWOM has become an essential factor for brands, which thus have started to employ more influencers. Lovett, Peres, and Shachar (2013), on the other hand, have studied the importance of the three drivers (social, emotional, functional) in terms of WOM. To that end, there are also studies that merely focus on identifying key influencers (Wiedmann, Hennigs, & Langner, 2010). While a handful of recent studies depicted the relationship between brand and SMI, the differences in terms of visual product depiction strategy and their respective success have not been studied, yet. Hence, this paper, filling a gap within the brands and social media domain, serves a relevant academic purpose.

Socioeconomic (Societal/Economic) Relevance

Another aim of this study is to provide different perspectives in terms of socioeconomic relevance. EWOM is highly influential on individual's purchase behavior and especially purchase intention (Bickart & Schindler, 2001). Such influence is markedly vital for brands in

order to reach and vend their products and services to the masses. With the development and establishment of social media in the western world, brands have made social media and its influencers a significant part of their marketing strategies, in order to communicate with their audience and win their trust, by leveraging off the influencers' eWOM powers. The shift within the brand's marketing strategies has led to a transformation of social media platform, from sharing personal experiences in the form of videos, photos, and text to a more commercialized, inflated and orchestrated experience. Therefore, it stands to reason that Social Networking Sites, such as Instagram, Facebook, Twitter, and Pinterest, have developed into monetization platforms with tremendous potential. Based on that premise, more and more individuals are trying to become part of this development in order to obtain private financial gain, and potentially create their own brand and company.

Based on that, it is possible to argue that eWOM and therefore, visual eWOM has an influence on social, and simultaneously on economic factors. Hence, this research and its respective output have a socioeconomic relevance.

Chapter Outline

The remaining chapters of this thesis are assembled as follows: in the theoretical framework the broad concept of influencer marketing within the domain of social media and SMI, and its impact on consumer behavior will be discussed. Next, the concept of eWOM and its ability to manipulate purchase intentions are going to be reviewed and related to the previously discussed notions. This creates the foundation for the following concepts and allows to deepen the understanding. Therefore, the two subsequent models - Hierarchy of Effects and Consumer Decision Making process - will be introduced and deeply discussed. These models serve as a mean to connect all previously discussed models and concepts and reveal the individual phases a consumer goes through while considering and attempting a purchase. To find results in regard to the posed research question, an experiment was prepared, which contained six isolated conditions in order to test for the presented variables.

Within the section of methodologies, this paper aims to present the instruments used to measure the variables in depth. To that end the same chapter focuses on the research design as well, contains information on the stimulus material, the operationalization of variables, manipulation checks, data analysis and the aspects and importance of validity and reliability are referred to, as well. The following chapter of this paper aims to present the analysis of the findings of the experiment, and the corresponding results. These findings are eventually interpreted through the incorporation of relevant literature in the last chapter of this paper, conclusions. This chapter contains information on research limitations and future research directions.

Theoretical Framework

This chapter aims to provide a multitude of theoretical concepts, which this study will be based on. Firstly, the concept of influencer marketing will be presented, and the related concepts of brand encroachment and the information adoption model explained. Based on that, the concept of eWOM and its visual component in the domain of social media influencer will be examined. Following that, it will be viewed

Influencer Marketing

As stated in the introduction of this paper, influencer marketing on social networking sites has emerged, as a result of the rapid growth of social media. As stated by Woods (2016), the main objective of influencer marketing is to transmit a brand's message to a broad audience. That is to say, the goal of brands, here, is to manipulate the consumers' purchase behavior to their advantage. A typical characteristic in order to be classified as a digital influencer is that the individual has a sizeable audience on one or multiple SNS platforms (i.e. Instagram, Snapchat, Facebook etc.) or blogs (Ehrlich, 2013). Abidin (2014) describes an SMI as an individual who amasses an audience (or following) through textual or visual commentary on their private daily lives. The author adds that these individuals become influencers when they receive monetary aid in exchange for promoting products and services onto their audiences. With this in mind, brands, in the current state of the market, rely profoundly on SMIs. Literature argues that advertising on social media platforms has become more efficient and effective at the same time compared to conventional media. Influencers on SNS are able to aim for target audiences, that are hard to reach with traditional methods (Carter, 2016), and are generally viewed as more trustworthy and credible than the previous generation of celebrity influencers (Veirman et al., 2017). A crucial difference between previous celebrity influencers and the modern social media influencers is that social media influencers nowadays have close proximity to their audience and therefore are closely connected to them. On the other hand, the previous generation of celebrity influencers kept their distance to their audience and only connected to them through advertisements (Senft, 2009). Generally speaking, the act of brands utilizing celebrities to endorse their products and services is not a new concept; nonetheless, the advantage of the modern SMIs is their authenticity and their proximity to their audience, which allows them to maximize their reach. Having said that, brands utilize a selection of ways to equip SMIs with their products. Braatz

(2017) describes two techniques used by brands to convince digital influencers to represent their product. One approach is to send products to them for free, in hopes that the influencer will integrate it into their social media, and endorse it. Another way to reach influencers is to reward them monetarily for featuring the brand's product on their social media and speaking of it positively, which is generally described as a sponsored post. Flynn, Goldsmith, and Eastman (2007) argue, that recommendations and endorsements by SMIs are highly influential of their audience and have an effect on their inclination to research, purchase, and eventually use of a product.

Brand Intervention

Paid promotions (aka sponsored posts; seeding campaigns; organic or native advertising) are a technique employed by brands to utilize influencers in order to reach their audience. Specifically, brands pay SMIs to advertise their products by uploading images (on Instagram), containing a usage scenario of the product, including the influencer him- or herself. In some cases, however, the agreement for enlisting the services of the influencer goes further and includes a variety of requirements. Despite the fact that the SMI posts the image on their feed, some agreements require the SMI to recommend the product directly to their audience. To that end, brands request the influencer to integrate brand messages into their posts (Audrezet, de Kerviler, & Guidry Moulard, 2018). Audrezet et al. (2018) distinguish between a maximum encroachment and minimal encroachment, which reflect Braatz' (2017) mentioned techniques. The maximum represents the act of paying the SMI for posting content, that has been completely determined by the marketeers. On the contrary, minimal encroachment refers to the undertaking of providing the SMI with free goods, in hopes of them posting any information about the product. In addition to that, Audrezet et al. (2018) claim that influencer marketing can be viewed as a form of product placement, since the brand's message can be actively integrated into the post.

Research has focused on the impact of product placements on consumers. It has been shown that product placements are influential in terms of brand memorization (Babin & Carder, 1996), improved attitude (Auty & Lewis, 2004), and purchase intention (Tessitore & Geuens, 2013). Generally speaking, the usage of product placements has gained popularity throughout the years, due to the fact that products are displayed in usage scenarios and entertaining environments, allowing the consumer to envision themselves using the products. Product placements have also increased in popularity within the domain of social media. It is argued that precisely here, the notably high rate of persuasion is attributable to the fact that the influencers' audiences tend to develop a sense of friendship with them (Audrezet et al., 2018). Product placement in traditional media and new media (i.e. social media) has met, despite its effectiveness and the resulting success - some criticism. A factor for the criticism is that the fundamental objective of the promotional message is not perceived by the viewer/consumer and therefore does not lead to the intended effect (Boerman, Willemsen, & Van Der Aa, 2017). To that end, Cain (2011) argues that advertisements that are placed in entertaining media can be viewed as misleading and illusory.

Information Adoption Model

Literature argues that information can lead to different responses and therefore, can influence individuals differently (Chaiken & Eagly, 1976). In order to obtain an enhanced understanding of how individuals are influenced by information and how information is adopted, the Information Adoption Model was created by Sussman and Siegal (2003) (Cheung, Lee, & Rabjohn, 2008). The Information Adoption Model was developed as an extension from the Technology Acceptance Model, which originated from the Theory of Reasoned Action (Özkan, Bindusara, & Hackney, 2010). In its essence, it encompasses the procedure of transferring or conveying knowledge and information to another individual or a group of individuals through computer-mediated communication (Arumugam & Omar, 2015; Nonaka, 1994). This model has been widely adopted and has been used in a variety of studies focusing on eWOM (Cheung et al., 2008).

The Information Adoption Model focuses mainly on two aspects, the argument quality (quality of information transmitted) and the source credibility (Arumugam & Omar, 2015). Argument quality describes the persuasive power that the transmission yields (Arumugam & Omar, 2015). To that end, the current state of information distribution through the internet, and more notably through social media, has led to a general decrease in argument quality (Arumugam & Omar, 2015), which has caused consumers to form methods to evaluate transmitted information. These evaluations are based on the content of the information, the accuracy, its format, and timeliness (Arumugam & Omar, 2015). Source credibility will be discussed individually in the following section of this thesis.



Figure 1: Information Adoption Model (Sussman & Siegal, 2003)

Source Credibility

As mentioned in existing literature, consumers are also influenced by a variety of cues (others are trustworthiness, honesty, and expertise), whereby source credibility plays an immense role (Cheung et al., 2008; Kapitan & Silvera, 2016). Source credibility has been defined as a degree to which a communicator (in this case a SMI) is perceived and viewed as legitimate based on their proclamations (Riley, Hovland, Janis, & Kelley, 2006). In addition to that, it describes the level of perceived intent a communicator has to convey legitimate and valid assertions (Riley et al., 2006). Petty and Cacioppo (1986) view it as a way to describe the information receiver's perception in terms of how believable and trustworthy the information source is. To that end, literature has also pointed out that the communicator is highly influential concerning the acceptance and the approval of the conveyed message (Ohanian, 1990). Thus, it is possible to argue that the speed of information adoption is highly dependent on the transmitter and their credibility amongst their audience. Hence, Cheung et al. (2008) state that the consumers' opinions can be altered and even manipulated, based on the information source. The levels to which an opinion can be altered relies on the perceived source credibility from the consumers' perspective and hence is high when the source credibility is viewed as high, and low when it is perceived is low (Riley et al., 2006). To add to that, information shared by very credible and reliable sources are seen as supportive and helpful, which leads to an enhancement in regard to information delivery (Cheung et al., 2008). In a variety of research, it has been argued that the nature (or type) of the advocate is crucial and has an immense influence on perceived source credibility. Specifically, company CEOs, experts, and peer advocates are viewed as more valuable due to their knowledge and proficiency, compared to celebrity endorsers (Kapitan & Silvera, 2016). In addition to that, Kapitan and Silvera (2016) claim that in the current market,

where brands actively look for SMIs to become their advocates and endorse their products or services publicly, source credibility can be viewed as a competitive advantage.

Electronic Word-Of-Mouth (eWOM)

A large and growing body of literature has investigated the impact of WOM communication on consumers' behavior, pre- and post-purchase. Traditionally, it has been reported that WOM has a higher impact than conventional methods of marketing (Gruen, Osmonbekov, & Czaplewski, 2006), signifying its importance in the domain of marketing. With the rise of the Internet, and later the creation of the Web 2.0 (i.e. social media and user-generated content), eWOM communication has continued WOM's relevance and arguably has become even more critical for marketers and brands. EWOM has a significant impact on the Decision-Making process (DMP) of the consumer due to its nature of being more honest and believable in the eyes of consumers (Sen & Lerman, 2007). Especially when compared to traditional marketing tools, prior research has shown that eWOM is more impactful, since it provided the end consumer with economic and social value (Balasubramanian, 2001). The processes of WOM or eWOM can be described as the dissemination of data and information related to products or services (Kimmel & Kitchen, 2014). Swarbrooke and Horner (2006), and Hennig-Thurau, Gwinner, Walsh, and Gremler (2004) explained that the information spread could carry negative and/or positive connotations, regarding experiences a consumer has with a product or service. Additionally, a large volume of published studies have shown that WOM and eWOM are highly influential in regard to the consumer DMP, making such vital and immensely important (Bickart & Schindler, 2001; Okazaki, 2009). The consumer DMP will be elaborated upon later in this framework.

Mental Imagery & Visual eWOM through Images

A considerable amount of literature has pointed out the fundamentality of product information in terms of the consumer purchase decision (Kim & Lennon, 2000; Mitchell & Boustani, 2002), which can be transmitted verbally, written, or visually. Due to the nature of this thesis, the focus of the discussion will be only on visual cognition.

Mental (or Visual) Imagery is a crucial concept in terms of cognition, and is, as argued by Rossiter (1982), superior to its written counterparts (i.e. texts, articles, blog posts etc.). It has been described as the process of psychological or mental visual depiction of a notion or concept (Lutz & Lutz, 1977), where an individual's sensory and perceptual experiences are processed

within their working memory (i.e. ideas, feelings and memories) (MacInnis & Price, 1987). A study conducted by Elder and Krishna (2011) has shown that product depiction is influential on the consumer's purchase intentions. They revealed that when a product has been affected in a way where it was orientated towards a consumers' dominant hand, their purchase intention in regard to the product was increased. Mental imagery can be stimulated through a multitude of or single sensory stimuli, yet, it has been shown that the most prevalent triggers are visual and verbal factors in advertising (Babin & Burns, 1997; Fennis, Das, & Fransen, 2012). In terms of traditional media, a wide range of studies investigating the impact of product depiction and therefore the resulting mental imagery has on brand attitude, purchase intentions, brand beliefs, and brand recall has been conducted. In regard to these four properties, it has been proven that mental imagery is highly influential and can manipulate the consumer's perception. (Babin & Burns, 1997; Elder & Krishna, 2011; Mikhailitchenko, Javalgi, Mikhailitchenko, & Laroche, 2009).

More recent studies have explored and investigated product depictions on the Internet and their ability to generate mental imagery in the consumer, and consequently, affect their intentions. Yoo's and Kim's (2014) paper has shown that if a product depiction emits a positive mental notion, the viewers tend to increase their behavioral intentions. A positive emotional (or mental) notion can be stimulated through, for instance, a particular choice of color or as previously mentioned the products' visual orientation towards the viewer. A prior study led by Jeong (2007), supports Yoo's and Kim's (2014) results by presenting findings that show a relationship between a product's visual representation online and its impact on the consumers' experiential values. It is of importance to point out, that the concept of experiential values refers to stimuli that focus on sensory, cognitive, and emotional experiences (Jeong, Fiore, Niehm, & Lorenz, 2009). Notably, the study has concluded that when a product is depicted in such a way that it leads to a high stimulation in regard to the consumers' sensory, cognitive, and emotional experiences, their purchase intentions will be positively influenced.

In terms of eWOM, a multitude of prior studies have focused on it in textual form, and neglected the impact of its visual form (Lin, Lu, & Wu, 2012). More recent research, however, points out the importance of visual eWOM and has shown that eWOM accompanied with visuals have a significant influence on the consumer's product interest and purchase intention (Koponen, 2017; G. Lee & Tussyadiah, 2016; Lin et al., 2012). Visuals are also highly effective in terms of

preventing purchase intentions (Koponen, 2017); for instance, in case of imagery on cigarette packages, it has a negative effect on consumers' purchase intention. Generally, it is argued that people have a preference for visual communication since such is perceived as easier, faster, and more entertaining than comparable ways of communicating (Abdullah, Hambali, Kamal, Din, & Lahap, 2016). Nonetheless, research that highlights the factors which influence visual eWOM has not been conducted, at the time of writing this paper.

eWOM, Source Credibility, Brand Attitude & Purchase Intention

The term eWOM credibility refers to one's perceived trustworthiness in regard to an eWOM recommendation (Park, Wang, Yao, & Kang, 2011). Bhatt, Jayswal, and Patel (2013) found that credibility has an impact on the consumer's brand attitude (BA). Prior research indicates that celebrity endorsers' (i.e. SMIs') credibility is highly influential on the consumers' attitudes towards advertisements and the brand itself (Erdogan, 1999). A vast majority of prior studies show that BA and purchase intention (PI) are deeply linked. Baur and Nyström (2017) argue that brands have an influence on one's brand attitude and can influence such by taking advantage of user-generated content (i.e. eWOM). Other studies enforce such claim, showing that a consumer's attitude towards a brand is highly influential on their PI (Korzaan, 2003; Prendergast, Ko, and Yin, 2010). A study concluded that credibility is a crucial factor of eWOM in an online environment, and can highly affect the consumer's purchase decision (D.-H. Park & Lee, 2008). The dimensions of expertise, attractiveness, and trustworthiness are essential factors here (Pornpitakpan, 2004). Based on that, the following hypothesis has been created:

Hypothesis 1 (H1): Credible SMIs have a significant positive influence on brand attitude.

Hierarchy-Of-Effects Model

The hierarchy-of-effects (HOE) has been a fundamental framework for advertising for decades. The model aims to describe the steps a consumer undergoes during their purchasing process. There are various alterations of the model that have been developed over the years; however, all variations incorporate the same underlying classifications (Barry, 1987; Lavidge & Steiner, 1961). As seen in figure 2, the phases are cognitive responses, affective responses, and behavioral or conative responses. Here, the procedure involves a multitude of steps, where the aspects of awareness, knowledge, liking, preference, and conviction play a crucial role and eventually lead to the purchase decision (Lavidge & Steiner, 1961).

Additionally, the concepts of HOE and the consumer decision-making are analogous (Hutter, Hautz, Dennhardt, & Füller, 2013). The HOE model focuses rather on the mental stages of a consumer with a product or brand, whereas the consumer decision-making model focuses on the series of steps taken during the decision-making process. Generally, the consumer decision-making process describes the steps which a customer undergoes during the process of purchasing an item or service (Fill & Turnbull, 2016; Payne, Bettman, & Johnson, 1991). The process will be detailed in more depth in the next section of this paper.

As seen in figure 2, the category of cognitive responses incorporates the factors of awareness and knowledge. Awareness describes the first step of the process, where the brand makes the consumer attentive of their product. Knowledge, on the other hand, incorporates the act of comparing products of different brands against each other. Here, it is crucial for brands to convey positive information to the consumers, which can be achieved through the internet or retail stores. The category of affective responses contains the process of liking, preference, and conviction. The step of liking details the affection the consumer forms regarding the product or brand (i.e. brand attitude). During this phase, the consumer evaluates the product's likelihood of providing emotional advantages.



Figure 2: Hierarchy of Effects Model

Despite its ability to describe the consumer's purchasing journey, all HOE theories lack conclusiveness and therefore, have received various criticism (Karlsson, 2007). One criticism is that the model is only concerned with the aspect of advertisements. However, it neglects crucial factors that are highly influential (Weilbacher, 2001). Generally, the HOE model can help to identify a consumers purchasing journey, but it cannot be used as a concrete guideline (Karlsson, 2007).

Consumer Decision-Making Process

A considerable amount of literature has been devoted to the process a consumer undertakes in their decision-making (DMP). Those papers mostly refer to DMP with regard to a purchase (Hoyer, 1984). Accordingly, marketers have focused on influencing this process, which required the identification and classification of each step involved in DMP (Fill & Turnbull, 2016; Payne et al., 1991). Over the decades, various alterations of the model have been published; nonetheless, even though the models differ, the underlying theory is the same, which describes the various stages of the consumers DMP (Tyagi & Kumar, 2004). Generally speaking, the

process contains five major steps: problem recognition, information search, evaluations of alternatives, product choice, and post-purchase evaluations (Solomon, 2009) (figure 3). However, only the phases of information search, evaluations of alternatives and the post-purchase evolution will be discussed in more depth.

The Information Search

In this phase, the consumer's role is to collect all available and relevant information (Solomon, 2009). Consumers will leverage off their own memory, trying to recall information related to products (Blackwell, Engel, & Talarzyk, 1993; Hoyer Wayne D., 2012). Here, the consumer focuses on top-of-mind brands and tries to recall any linkages associated with the brands (Rabben & Larsen, 2017). If the internal search is not satisfactory, external resources will be considered. Resources can vary immensely, and range from other people's opinions to advertisements and to websites on the internet (Rabben & Larsen, 2017). Nonetheless, other research shows that sources that are not directly controlled by marketers are perceived as more valid and reliable, and therefore are highly influential on the purchase decision (Bickart & Schindler, 2001).

During the information search phase, eWOM has its most prominent influence on the consumer. Such finding is supported by various other research, which states that user-generated information (i.e. eWOM) are supportive by providing data on experiences other consumers had with a product or service (Cantallops & Salvi, 2014; D.-H. Park & Lee, 2008). In addition to that, it is possible to argue that the information adoption model, which, as mentioned previously, focuses on computer-mediated information, comes into play during this phase. Furthermore, due to the fact, that information quality and source credibility are crucial determinants, it is possible to argue that the phase of information search of the consumer DMP, as well.



Figure 3: Consumer Decision-Making Process

The Evaluations of Alternatives

During this phase, the consumers start evaluating all the options relevant to them. Here, all options are evaluated based on expectations and characteristics, allowing one to limit the selection (Rabben & Larsen, 2017). In this case, while a consumer makes an assessment they regularly utilize an anchoring and adjustment process, (Hoyer, 2012) which describes the act of an individual basing their preliminary ideas regarding a product on one point of information and adapt (or adjust) these when obtaining additional information. A consumer's first assessment is based on memory or an external source, previously encountered, such initial assessment; however, it can be adjusted through the aggregation of additional information (Hoyer, 2012). A study has shown that during this phase of the DMP process, people seek opinions and experiences from others (i.e. eWOM) to compare that information with the information provided by a firm (Chen, Nguyen, Klaus, & Wu, 2015).

The Post-Purchase Evaluation

This phase describes one's reflection on the purchase decision (S. H. Lee, 2005; Solomon, 2009). The consumer will evaluate the purchase based on their satisfaction or dissatisfaction, which eventually will have an influence on their next comparable purchase. EWOM plays an important role in the post-purchase evaluation stage (Rabben & Larsen, 2017). A positive or negative experience with a product or service can lead to an eWOM with the respective connotation.

Chen et al. (2015) have pointed out the tremendous importance of images and their role in the purchase decision-making process from the perspective of the consumer. It is argued that images allow the consumer to obtain additional information about a product and therefore, complement their already existing knowledge. Moreover, it is stated that images can have a negative and positive influence on DMP. As discussed previously in 2.6.1, the consumers' memories are essential in order to recall information linked to products. Keogh and Pearson (2011) argue that mental imagery, which is highly influenced by visual stimuli (i.e. images), and the working memory are deeply linked. Therefore, it is possible to argue that information that has been obtained visually can be recalled more easily, signifying the importance of visual stimulus in the context of consumer DMP, or more specifically, during the phase of information search. In terms of the phase of evaluations of alternatives, it is stated that all alternative options are evaluated based on expectations and characteristics. In this case, it is possible to argue, that characteristics and features of a product can be conveyed visually and therefore, can have an effect on the consumers' expectations. Hence, if the visual depiction of a product does not meet the consumers' expectations, in terms of its characteristics and features, it is likely that they will look for alternative products that meet their criteria. Another aspect examined in the evaluations of alternatives section is the process of anchoring and adjustment. In that regard, it is also possible to argue that a product's visual depiction is influential, since the visual portrayal can convey additional information in regard to the product, and therefore, can alternate or manipulate the anchoring and adjustment process.

Furthermore, as previously stated, the HOE model and the consumer DMP are analogous models the previously argued statements in terms of the importance of visual depiction of a product can, therefore, be related to the HOE model. Notably, the cognitive phase of knowledge can be deeply linked to the importance of visuals, since such can provide additional information and therefore increase the consumer's knowledge about a product. Essentially, the arguments made previously regarding the phase of information search (of the DMP model) can be stated again in regard to the knowledge section of the HOE model.

With that in mind, it can be argued that the visual depiction of a product and visual eWOM are crucial factors during the consumer DMP. Consequently, it is possible to raise the question regarding the importance of the alignment in terms of product depiction between the brand and their respective social media influencer. Therefore, it is possible to pose the following hypotheses:

Hypothesis 2a (H2a): The brand's visual alignment with the SMI has a significant positive influence on BA.

Additionally, credibility has been deeply linked to reliability, sympathy and expertise; however, additional research has shown that it can be linked to cognitive and affective (i.e. BA) components, as well (Maathuis, Rodenburg, & Sikkel, 2004). To that end, source credibility is a crucial determinant of the Information Adoption Model, which arguably is a crucial part of computer-mediated information search and reception. Hence, the following hypothesis has been posed:

Hypothesis 2b (H2b): The brand's visual alignment with the SMI has a significant positive influence on credibility.

Because of the chain of effects, the consequent hypothesis arises:

Hypothesis 2c (H2c): Credibility mediates visual alignment's effect on BA such that visual alignment enhances credibility, which in turn creates an improved BA.

Finally, as reinforced from earlier studies, one can also verify the following:

Hypothesis 2d (H2d): BA has a significant positive effect on PI.

Conceptual model

To illustrate the relationships between the hypotheses, a conceptual model has been created (figure 4):



Figure 4: Hypothesized path model of this study

Credibility, here, acts as the mediator and as an independent variable. In order to analyze the mediation capability of credibility, the experimentation will utilize specific items to measure such. Additionally, it acts as an independent variable as well, since it has been used for conditioning the experiment. Such will be explained in more details in the following chapter.

Methodologies

In order to test the hypothesized model previously shown, the methodologies and research design are going to be presented in this chapter. Therefore, the proposed designs, operationalities of variables and the choice of data analysis will be discussed and justified. Concludingly, the aspects of validity and reliability will be explored. This chapter will be divided into two distinct subsections, due to the nature of this research. Firstly, the experiment preparation will be described and following that, the experiment itself will be explored.

Research Design and Justification

As this study tested the given hypotheses to address the research question, a quantitative approach was applied, which has been defined as an approach that uses numeric measurements to investigate a situation systematically (Mugenda, 2003). Such decision on the approach was made based on various factors: Firstly, a quantitative approach allows to conduct descriptive research, whereby its design seeks to describe the data in a quantitative manner, granting an overview of the dataset and its characteristics. In addition to that, this allows employing a multitude of methods of determining a correlation between the examined variables. In combinations with an experimental design it enables one to investigate potentially causal relationships between variables. To that end, generally speaking, quantitative research is designed as a top-down approach. Hence, the concepts and theories were firstly intensely examined to account for possible explanations for certain occurrences (Fallon, 2016). The hypotheses leading this research, have been developed based on the formerly explored and discussed theories, models and concepts, allowing one to expand on existing knowledge. In addition to that, the hypothesized model, which was presented as a summarizing part of the theoretical framework, has been developed under the assumption of cause-effect relationships. Hence, a quantitative design choice is the most suitable method of obtaining valid data in order to deduce conclusions.

To be specific, an experimental research design has been decided on, due to the fact that literature has argued that such approach is most effective in terms of testing causal relationships between the variables (Neuman, 2013). It has been stated that an experimental design allows one to design their research in a way to fulfill the criteria of causality - the proof of association, elimination of substitutional causes, and the temporal order of independent variables predating

dependent ones (Neuman, 2013). Based on the usage of the experimental design, it was possible to direct the research in order to generate specific results targeting the variables of this study.

As the aim for this study is to research the effects of visual eWOM and their alignment between SMI and brand on credibility, BA, and PI, a factorial design, with 6 conditions, was chosen. Here, six conditions (3x2 design), i.e. alignment (high vs. medium vs. low) vs. credibility (high vs. low), were used in order to study various combinations of variables (Table 1). Furthermore, it was decided to employ a between-subject, rather than a within-subject design, due to the fact that such approach minimizes the demand effect, which can be described as the respondents' ability to assume or interpret the researcher's intentions and thus answer the presented items according to the believed expectations of the researcher (Strodtbeck & Rosenthal, 2006).

In addition to that, due to the appliance of random conditions for each participant of the experiment, a fair distribution of the conditions was ensured. This method increases the confidence of this research, due to the fact that manual "randomization" might lead to a structured distribution evoked conscience or subconsciously. To that end, the same methodology reduces the amount of bias possibly induced to the experiment if the conditions were distributed manually. During this research, the combinations of variables were isolated and examined on their own. The final conclusions presented in this paper were drawn by comparing the individual discoveries from each condition.

During this study, two cases were investigated: (1) brands' posts; (2) SMIs' posts. Moreover, the usage of multiple SMI/brand pairs allows one to have a variety in product types and therefore avoid product bias. Based on the outcome of the visual content and alignment analysis, SMI and brand distances have been calculated using Word Mover's Distance. The determination of alignment was based on an object detection algorithm, which is able to recognize a multitude of objects and characteristics of individuals. Doing so allows one to obtain data on the content of the images, without any bias of the researcher. In addition to that, the algorithm applied has been highly trained, allowing one to gather information with high accuracy and relevance. This information was used to create the manipulations of visual alignment for the experiment of this thesis. The condition of credibility was manipulated through the alternation of meta data of the SMI and through the implementation of background stories, that convey the SMIs characteristics. More details on conditioning and manipulation will be discussed further on in this thesis.

In addition to that, the conditions of the experiment were manipulated according to the conditions depicted in the following (table 1).

	Credibility (High vs. Low)	
Visual Alignment	C1: Posts with high alignment and high credibility	C4: Posts with high alignment and low credibility
(Low vs. Medium vs. High)	C2: Posts with medium alignment and high credibility	C5: Posts with medium alignment and low credibility
	C3: Posts with low alignment and high credibility	C6: Posts with low alignment and low credibility

Table 1: Overview of the six experimental conditions

Experiment Preparation

The preparation of the experiment aims to create partially artificial stimuli based on computational distance calculations of brand and SMI alignment. The stimuli presented during the experimentation display posts that have been posted by the actual SMI, which contain the product of the brand, and the SMI themselves. However, meta data were manipulated to create different conditions in terms of credibility, hence partially faked.

Data Aggregation & Sample of Brands and SMIs

With the intention of collecting data for the process of topic modeling, seven brands and 14 SMIs were considered. In this case, only brands and SMIs that are represented on Instagram were included, as Instagram is an image-focused social media platform, and thus allows to aggregate relevant data for this study. To that end, a multitude of brands from different industries and their respective images published on their Instagram accounts were selected and analyzed in order to minimize bias incurred as an effect from brand's genre or the brand itself. The SMIs that were focused on in this research have been selected based on the following factor. To evaluate the truthfulness of the sponsored post, meaning whether the social media influencer has been truly sponsored by the brand, the brand needs to have mentioned or tagged the influencer in one of their posts. Only then it is possible to verify that the influencer is has worked with the brand officially. In the following, a table (table 2) has been compiled containing all brand and social media influencer pairs.

Brand	Social Media Influencer
Huawei Mobile	
	romeotan
	gadgetsboy
	limrebecca
	Julia.flabat
Underarmour	
	awaczynski
	kellylatimer
	valeriedomi
Amika	
	thestyledseed
	Makeupbyshosho
Fossil	
	theocarow
	samanthabelbel
Smart Wordwide	
	gadgetsboy
Lancaster	
	julia.flabat
Magnum	
	Joellenlove

Table 2: List of brands and corresponding Social Media Influencer

Operationalization

Object Detection

To obtain descriptive textual data for the topic modeling, it is necessary to apply object detection (i.e. converting an image to a set of keywords describing the objects in the image). Object detection can be described as a process that focuses on the identification of different elements (i.e. objects, people, animals, etc.) and tags them with their respective keyword (Amit & Felzenszwalb, 2014). In order to realize that a multitude of options exist. The best approach is to develop a customized object detection algorithm and train it with one's own data. This would allow one to train the algorithm in a more directed manner, meaning the algorithm could be specialized to recognize a set of objects (i.e. make up specific objects, clothing, etc.) Doing so allows one to obtain more reliable results since posts by people on Instagram tend to differ in their content usually. However, due to technical and time related limitations, this study has opted for employing image recognition software code (an application programming interface, or API). The API provider is Clarifai since this provider is able to identify objects on images with a high confidence rate and provides a set of 20 words per image. For this study, generated keywords harboring confidence levels of less the 0.7 have been removed from the corpus, which has a positive effect on the validity of this research.

Name	Value
people	0.991413
group	0.979926
facial expression	0.96865
group together	0.9412

Table 3: Example Output of Object Detection Algorithm (Top 4 Words)

Topic Modeling

To characterize the visual content of an SMI and the brands (i.e. images), topic modeling on the keywords, generated by the object detection API, was employed through the usage of Gensim, a framework for Python (programming language) which is viewed as one of the most reliable and scalable Python libraries to realize unsupervised semantic modelling from plain text (Rehurek & Sojka, 2010). The optimal number of topics, a parameter of the algorithm, was determined by perplexity measures (Deveaud, SanJuan, & Bellot, 2014) and the complexity score. The topic model algorithm applies latent Dirichlet allocation (or LDA), due to the fact that it allows one to identify the main (hidden) themes of a subject (Diesner, Franco, Jiang, & Chin, 2019).

Topic modeling, in its essence, represents each underlying theme of the analyzed dataset by a vector of words. It is imperative to point out that LDA is a probabilistic technique, which is based on the probability theory (Diesner, 2013). Therefore, each run of the algorithm, despite not alternating the provided dataset, can yield slightly different results. The LDA approach is based on the assumption that the documents fed to the algorithm share a set of topics, where each document exhibits a topic in different extents.

Similarity Measures

In order to determine the levels of visual alignment (i.e. low vs. medium vs. high) between the brand and the SMI, the output generated by the topic modeling algorithm described previously was employed. The weights and topic members assigned to each topic in the topic distribution of the data from each SMI and each brand can be compared via quantitative distance measures for textual data, including Euclidean Distance, Cosine Similarity or Word Mover's Distance in order to assess their alignment (similarity). These are reviewed below, but only the last is employed in the study, due to its superiority.

Euclidean Distance is a measurement that calculates the direct distance between points in space (i.e. the square root of the sum of the square of differences per dimension/item). This approach is used in for data classification and is also widely used in text classification (A. Huang, 2008).

$$d(x,y) = \sqrt{\sum_{i=1}^n (x_i - y_i)^2}$$

Figure 5: Euclidean Distance Formula

As depicted in the formula, it shows that the difference of two points on one dimension are taken. The resulting number is then squared and summed for n variables.

Cosine Similarity is another measurement that is frequently used in text mining and classification. This method represents documents as term vectors, where the similarity of two documents is derived from the correlation of the vectors (A. Huang, 2008). The correlation is calculated or measured as the cosine of the two vectors and is called cosine similarity. According to Huang (2008), Cosine Similarity has the attribute of being impartial in regard to a document's length, meaning related composed documents with different lengths will still be viewed as similar.

$$\cos(heta) = rac{\mathbf{A} \cdot \mathbf{B}}{\|\mathbf{A}\| \|\mathbf{B}\|} = rac{\sum\limits_{i=1}^n A_i B_i}{\sqrt{\sum\limits_{i=1}^n A_i^2} \sqrt{\sum\limits_{i=1}^n B_i^2}}$$

Figure 6: Cosine Similarity Formula

As seen in the formula above, the cosine similarity is represented by the dot product and magnitude. Here, A_i and B_i are components of the vectors A and B. In terms of text mining A and B are term frequency vectors of the documents. The sum (for n variables) of the product of A_i and B_i is divided by the product of the individual sums of A_i^2 and B_i^2 .

Word Mover's Distance is a measurement that – in contrast to Euclidean Distance and Cosine Similarity measurements - takes word level similarities into account. That means, two documents that exhibit the very same meaning, using different words, would result in little to none similarity when relying on the two previously mentioned traditional methods (Mekonnen, 2017). This effect is especially noticeable in short text documents since it is less likely that those contain the same words (Mekonnen, 2017). Another issue described by the author is that even if two documents do contain similar words, not all with similar meaning might be taken into consideration, once again resulting in bias. Those two drawbacks especially, make the traditional measurements poorly adequate for this study.

Due to the fact that, that the Word Mover's Distance approach is argued to be superior to the traditional methods (i.e. Euclidean Distance and Cosine Similarity), in terms of measuring distance between two documents based on their sentiment, and its adequacy for short text documents, this approach will be applied during this study.

Experimentation of Alignment

To test the linkages posed in the hypotheses, an experiment will be conducted as it can confirm causal relationships (Neuman, 2013). It is argued by Neuman (2013) that experimental research is the most effective and potent way of finding evidence for such. Moreover, an experimental approach is suited for studies concerning psychological behavior in a narrow scope.

Sampling: Age Group of Experiment Participants

This research focuses on young adults, ranging from the ages 21 to 34. As described by Casey (2016), people within that age range have the highest average time spend on social media, in comparison to other media. Due to the fact that Instagram falls into the category of social networking sites, it is one argument to focus on that age group.

In addition to that, it is possible to state that message credibility and source trustworthiness are crucial factors, and inherently connected due to their causal relationship (H.A. Smink, 2013). In terms of trustworthiness or the level of trust people have towards advertising, it was claimed by Nielsen (2015) that different age groups exhibit different levels of trust. In order to minimize that difference, the age group of 21 to 34 was decided on. Nielsen (2015) shows that that group possess the highest level of trust in regard to advertising, in general, allowing this research to precisely explore the variables.

Stimuli Material

In order to first develop the appropriate stimuli, one needs to determine the alignment of the visual content between a SMI and their portrayed brand. That is, images of SMIs having different degrees of alignment to their portrayed brands needs to be acquired for the experimental

stimuli. Both computational object detection and then topic modeling, specifically, LDA were utilized, to assess the level of alignment of existing SMIs and brands. In order to obtain results that are representative of the respective account, the approximately 350 to 500 images per Instagram account are used as input to the object detection algorithm. The object detection algorithm used during this research yields 20 keywords per image, resulting in at least 7.000 (= 20×350) keywords per account.

Based on the six different scenarios mentioned previously (table 1), six different stimuli have been created, each representing the three variations in alignment (low alignment vs. medium alignment vs. high alignment) and the two variations in credibility (low credibility vs high credibility). Here, the results of the Experiment Preparation section, which outputted the alignment between the brand and SMI pairs, were used respectively to create the stimuli for the visual alignment conditions. Based on this information, a "post" (i.e. the stimuli) for each SMI has been created, where the image within the post (i.e. the image that the SMI has posted on their original account) contains the influencers themselves and the product provided by the sponsor (i.e. the brand). An example of the presented stimuli can be seen in figure 7. Here, it is possible to see the SMI's profile and a post, which was (actually) uploaded by themselves, depicting their usage of the promoted product. In this case, the post depicts the SMI eating a Magnum ice cream (sponsor of the post). The stimuli material created for the experimentation is based on a post created by the influencers themselves, however the surrounding data (i.e. meta data such as number of followers, likes, and posts) were edited using Figma, which allowed one to create a user interface resembling Instagram's user interface, in order to increase the authenticity of the post.



Figure 7: Example of manipulation

In the image, an example of a SMI with high credibility is depicted (details on how the manipulation was created will be discussed in the following section). The presented image contains the common user interface of Instagram, with notably the meta data on top and the number of likes at the bottom, which serve as a way to manipulate the credibility of an influencer. In addition to that, the image contains the SMI's brief biography, that contains descriptions generated by the SMI and information such as hyperlinks websites relevant to the SMI.

Manipulation

In order to implement manipulations into the stimuli and to assess the different conditions of credibility, it was decided to implement two different kinds of manipulations into the experimentation. Firstly, it was decided to alter the meta data between the different conditions of credibility, whereby lower numbers of followers, comments and likes were supposed to evoke the feeling of low credibility from the perspective of the participant and high numbers were supposed to evoke the feeling of high credibility (Veirman et al., 2017). In order to enhance the manipulation, it was decided to additionally add a link to the website of the SMI and a verification batch in the conditions of high credibility. To reinforce such multiple backstories
have been written for the conditions, which were based on the notions depicted in Lenhart's and Foxe's (2006) paper. Here, the authors stated that the aspects of passion, expertise and accuracy are critical indicators for source credibility, which thus have been incorporated into the background stories in case of high credibility, and neglected in case of low credibility. Furthermore, it is important to point out that the credibility manipulations/conditions severed to increase the variances in credibility responses.

Visual Alignment

Three different Instagram influencer who officially worked with a brand and endorsed their products have been selected, in order to provide the participants of the experiment with different stimuli. Notably, the visual alignment between SMI and brand, that was explored in the first part of the research, was a determining factor for the decision making regarding which SMI to implement into the experiment. A list with all analyzed influencer and their alignment scores with their respective brand can be seen in table 3, where a lower score indicates lower a distance between the pairs, hence, high alignment.

Brand	Social Media Influencer	Alignment Score
Huawei Mobile		
	romeotan	0.8191
	gadgetsboy	1.3001
	limrebecca	0.8541
	Julia.flabat	1.1284
Underarmour		
	awaczynski	1.7680
	kellylatimer	1.6704
	valeriedomi	1.8138
Amika		
	thestyledseed	1.8335
	Makeupbyshosho	1.8386

Table 4: List of Alignment Scores between brand and SMI

Fossil

Brand	Social Media Influencer	Alignment Score
	theocarow	1.5527
	samanthabelbel	1.4889
Smart Wordwide		
	gadgetsboy	1.3538
Lancaster		
	julia.flabat	1.6897
Magnum		
	Joellenlove	1.6327
	Littlemexico	2.0308

Looking at the table, it can be seen that the SMI *romeotan* reached one of the lowest scores (0.8191), indicating the usage of very similar photos in comparison to Huawei Mobile, and therefore yields high alignment. Based on that, it was decided to use *romeotan* for this experimentation in order to represent high alignment between SMI and brand. The SMI used to represent medium alignment with the brand is *theocarrow*, who worked with Fossil to endorse their vintage watches. The alignment analysis has resulted in a score of 1.5527, indicating medium visual alignment between him and Fossil's Instagram page. Lastly, *littlemixico* with a score of 2.0308 has been chosen to represent low visual alignment between and SMI and a brand.

Pre-Test

Due to the nature of the experiment, where multiple brands and social media influencer will be presented in order to measure the difference variables, it might occur that a bias based on brand (or SMI) awareness by the participants influences their decisions. In order to understand and possibly reduce how brand awareness might influence the results, a pre-test regarding the awareness of the predetermined (i.e. based on their alignment calculated in the first part) brands and influencers was conducted. During the survey, the respondents were asked to indicate their brand awareness of the three social media influencers and three brands.

The pre-test was conducted between 18 to 20 May 2019. The participants of this study had the same age requirements (from 21 to 34 years) as the final test. In total 20 respondents were collected, of which one participant did not conclude the survey. Therefore, after removing

the participant from the sample size, the pre-test had a sample size of 19. The final sample presented in this pre-test had a mean age of 24.42 (SD = 3.34). The gender distribution was quite similar, where 63.2% (n = 12) of the participant were female, and 36.8% (n = 7) identified as male.

Table 5: Mean and standard deviation of brand awareness brands and SMI (Scale: 1 - 6, where 1 = fully agree and 7 = fully disagree)

		Std.	Social Media		
Brand	Mean	Deviation	Influencer	Mean	SD
Magnum	1.21	.54	LittleMexico	6.64	1.21
Fossil	1.55	.82	Theocarow	6.00	2.24
Huawei	1.36	.67	Romeotan	6.18	1.83

In order to determine the significance of the mean difference in terms of brand awareness, for each brand and social media influencer, a paired sample t-test was performed. Looking at the following table (table 5) it is possible to say that none of the presented pairs do exhibit a significant difference in terms of the mean value, except for Magnum and Fossil. Nonetheless, due to the moderate significant difference, the study utilized these brands for the experiment. Therefore, it is important to point out that the experiment might exhibit a slight bias from the stance of the participants.

Table 6: Paired Sample T-test

		Paired Differences							
			Std. Deviatio	Std. Error	95% Cor Interval Differ	nfidence of the rence			Sig. (2-
		Mean	n	Mean	Lower	Upper	t	df	tailed)
Pair 1	Magnum - Fossil	63	1.26	.29	-1.46	.20	-2.19	18	.042
Pair 2	Magnum - Huawei	16	.84	.19	71	.39	83	18	.420
Pair 3	Huawei - Fossil	47	1.31	.30	-1.34	.39	-1.58	18	.132
Pair 4	littlemixico - theocarow	.37	1.38	.32	55	1.28	1.16	18	.261

Pair	littlemixico -	.32	1.16	.27	45	1.08	1.19	18	.250
5	romeotan								
Pair	theocarow -	05	1.87	.43	-1.29	1.18	12	18	.904
6	romeotan								

Operationalization

To measure brand attitude, PIs, and credibility Likert scales was employed. The usage of Likert scales allows one to conduct measures in a scientific and valid manner (Joshi, Kale, Chandel, & Pal, 2015). A Likert scale quantifies the aspects of thinking, feeling, and action of an individual, making it suitable for this research (Joshi et al., 2015).

Credibility

As a note of clarification, while credibility is a manipulated condition, respondents were asked about the SMI credibility as part of the manipulation checks. As a manner to measure credibility, a questionnaire created by Braatz (2017) and Lu, Chang, and Chang (2014) was utilized, due to the fact that they complement each other. The questions generated by Lu et al., (2014) focus on the propensity of trust generally, whereas the questions composed by Braatz (2017) aim to question one's trust in a source (i.e. the source's credibility).

Here, a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), where Lu, Chang, and Chang's (2014) scale was adapted to a 7-point scale. In total ten items were used in order to examine credibility, where questions such as I generally trust other people; It is easy for me to trust other people, were used to measure one's propensity of trust, and questions like I believe this source is an expert; I believe that this source is experienced in order to measure source credibility.

Purchase Intentions

In order to measure a consumer's PIs, the Likert-scale used by Lu et al. (2014) was employed. In this case, a 7-point Likert scale was utilized, where, as previously, 1 corresponds with strong disagreement (i.e. strongly disagree) and 7 with strong agreement (strongly agree). The authors supply a 5-item list containing questions such as I would consider buying this product; It is possible that I would buy this product.

Brand Attitude

Brand attitude was measured based on questions and a scale developed by Park, MacInnis, Priester, Eisingerich, and Iacobucci (2010). The scale contains eleven evaluation options ranging from 0 ('not at all') to 10 ('completely'). Additionally, the authors provide ten items, which contain questions such as To what extent is (brand name) part of you and who you are?; To what extent do you feel personally connected to (brand name)?; To what extent do you feel emotionally bonded to (brand name)?; To what extent is (brand name) part of you? In addition to that, Lu et al. (2014) provide a measurement scale that examines a consumer's attitude towards a sponsored post, which is complementary to the scale generated by Park, MacInnis, Priester, Eisingerich, and Iacobucci (2010). The authors study this property through the usage of questions like I think this post tells the truth; I can learn real product information from this post. It is important to point out that some questions needed adaption in order to make them more suitable for this study. To that end, a 7-point Likert scale was used, instead of the proposed 10point Likert scale, in order to ensure consistency.

Manipulation checks

The experiment of this thesis attempted to manipulate the variables of visual alignment and credibility, through the alternation of meta data, background stories and visual alignment (according to the results of prior alignment computations). Manipulation checks were implemented in the experiment in order to increase the internal validity of the research. The purpose of the manipulation checks was to focus on the validation of the independent variables (i.e. visual alignment and credibility) in this thesis. Therefore, the scales for measuring the SMI's credibility and their visual alignment with the brand were reused as manipulation checks. That means for instance, in the case of a condition with high credibility (or high alignment) the respondents of the particular condition would answer the corresponding scale ideally according to the manipulation (i.e. with high credibility).

Experimental Procedure

Another part of this research was to conduct an experiment, which was employed using the method of convenience sampling. Convenience sampling (also known as haphazard sampling or accidental sampling) is a non-probability or nonrandom sampling method, that is based on situated and pragmatic criteria (Etikan, Musa, & Alkassim, 2016). Those criteria are for instance, accessibility, availability, or the preparedness to participate. However, such a method produces a

non-representative sample, that could have an effect on the results (Neuman, 2013). To counteract that, crowdsourcing platforms such as SurveyCircle, and Facebook and LinkedIn were utilized, which allows one to collect participants online. In order to collect participants for the experiment five different survey exchange groups on Facebook were utilized, where four of them were international groups and one was German based. In addition to that, one LinkedIn group was used to collect further participants. To that end, the experiment was posted on SurveyCircle, which is a survey exchange focused platform.

To deploy the experiment Qualtrics, an online surveying platform, was used. The procedure of the experiment was started with a brief introduction, familiarizing the participants with the general topic of the experiment. Following that, the participants were asked to confirm their participation by approving the consent form. Next, in order to assure that the participants fit the sample requirement (i.e. age group), they were asked to indicate their age range. The participants that fit the sample requirement were then forwarded to one of the six conditions. The six conditions of the experiment were randomly assignment through the usage of Qualtrics's random assignment function. Such implementation allowed one to avoid potential bias, which is highly important (Etikan et al., 2016). Subsequently, the participants are presented with a question about their ability to assess a product. This question was not implemented in order to conduct hypothesis testing, but as a deflection for the participants to reduce potential systemic thinking, where participants assume what the experiment is about and therefore respond to the scales accordingly. After that, the respondents were shown one of the stimulus materials. In order to ensure that the participants spend enough time on the stimulus, a timer of 15 seconds was implemented that allowed them to only move on after it ran out. Afterwards, the questions in order to test the experimental variables and the manipulation checks were posed. Concludingly, the respondents were questions for basic domestic information.

For each given condition a minimum of 30 participants were required, and thus 180 valid participations were needed in total. Nonetheless, due to potential dropouts during the experiment, the aim was to collect at least 220 participants. Furthermore, the data obtained throughout the experiment is self-reported data. To that end, the respondents were informed about the confidential nature of the experiment.

Data analysis

The collected data, aggregated through Qualtrics, was analyzed through R and SPSS; both were employed due to convenience for the researcher. Prior to conducting the analysis, data were cleaned of incomplete and erroneous samples to increase the internal validity of the study. In this case, incomplete samples were removed from the dataset. To that end, the dataset was examined for outliers, which were removed based on the Mahalanobis distance.

Statistical techniques were employed in order to examine the reliability of the scales and the manipulation checks of the experiment. Reliability of the scales was investigated by conducting an exploratory factor analysis (EFA), including the calculation of Cronbach's alpha for each scale, and was validated through confirmatory factor analysis (CFA). Following that, each hypothesis was tested using the appropriate test statistic. The first hypothesis of the thesis, "Credible SMIs have a significant positive influence on BA.", was tested in order to obtain insight on the impact of credibility on one's BA, using regression analysis. Here, the credibility indicated by the respondents was used, rather than the conditions of credibility. H2d which hypothesized that "BA has a significant positive effect on PI." Was examined in an identical manner, using linear regression analysis, as well. In addition to that, Hayes PROCESS macro (Hayes, 2017), an add-on package for SPSS, was installed in order to test the remaining hypotheses for mediating effects.

Reliability and Validity

As stated by Heale and Twycross (2015), validity refers to the extent a concept is measured accurately. In that regard, validity can be improved by utilizing existing measurement instruments, which have been established through their implementation in prior research. Moreover, through the usage of a multitude of items per scale, it is possible to ensure that the respondent is able to answer the scale based on a range of single items that yield the same definition. Furthermore, as the experiment is comprised of a variety of conditions, in order to measure their effect on the depended variables, a multitude of manipulations check questions were implemented, allowing one to segregate cases that were influenced by external factors. In addition to that, a focal demographic group has been chosen based on research on social media usage, conducted by Nielsen (2015). Due to the nature of the study and therefore the experiment, which incorporates a variety of brands SMIs, a pre-test focusing on brand awareness has been

conducted in order to ensure that the chosen brands and SMIs yield similar values in that regard. The implementation of Qualtrics randomization function, which has the capability of assigning participants to conditions in an indiscriminate manner, bias potentially introduced through the research or other external factors was diminished.

The term reliability, in comparison, refers to the consistency of a measurement instrument, meaning that each item yields approximately similar results (Heale & Twycross, 2015). Through the process of data cleaning, for instance of faulty samples, the factor of internal reliability could also be enhanced. Reliability tests appear in the chapter *Results*.

Results

This chapter will focus on reporting the generated outputs of the analyses. These discoveries are vital for construction of insights regarding the objective of this study. This chapter is divided into three main sections, where the first section focuses on descriptive statistics of the data, the second section deals with the implemented manipulations checks, and finally the last section aims to obtain insights in regard to the hypotheses posed for this research.

Descriptive statistics

Respondents for the survey had been collected over a period of 14 days, or more specifically the 21st of May to the 5th of June 2019, via Facebook, LinkedIn, and SurveyCircle. In total, 252 respondents were accumulated, surpassing the required minimum of 180 valid respondents. Due to a variety of factors, namely drop-outs, not meeting sample criteria (age group 21 - 34), and the failure of the reverse item check in answering the questions, the definitive sample size consisted of N = 204, who was suitable for further statistical analysis. Looking at table 6 it is possible to see the different distributions of the participants for the respective condition. In terms of gender of the respondents, 40.69% (n = 83) were female, whereas 17.65% (n = 36) were male, 0.98% (n = 2) indicated their gender to be other. The remaining 40.68% (n = 83) participants decided to not provide any information on their sex. The age range, due to the prerequisites, ranges from a minimum of 21 to a maximum of 34 years, with an average of 24.68 years (SD = 2.85). In regard to the educational achievements of the respondents, 35.78% (n = 73) obtained a bachelor's degree, 7.84% (n = 16) have obtained a high school degree, 14.71% (n = 30) obtained a master's degree, and 0.5% (n = 1) obtained a PhD. The remaining participants 41.18% (n = 84) decided not to disclose their educational achievements.

	Credibility (High vs. Low)			
Visual Alignment	C1: Posts with	C2: Posts with		
(Low vs. Medium vs.	high alignment and high credibility	high alignment and low credibility		
High)	(n = 33)	(n = 38)		

Table 7: Overview of the distribution of respondents for each experimental condition

Credibility (Hig	Credibility (High vs. Low)			
C3: Posts with	C4: Posts with medium alignment			
medium alignment and high credibility	and low credibility			
(n = 31)	(n = 30)			
C5: Posts with	C6: Posts with low alignment and			
low alignment and high credibility	low credibility			
(n = 37)	(n = 35)			

Exploratory and Confirmatory Factor Analysis

In order to measure the variables of this study a variety of scales was utilized. Hence, it is of importance to assess their reliability, by investigating their internal consistency and the orthogonality considering all employed scales. This research applied an EFA in order to examine the factorial composition of all scales of the experiment/survey and to confirm separation between the applied scales. The scrutinized items (25 items), which aimed to obtain data on brand awareness, BA, PI, source credibility, and perception of alignment, were measured using 7-point Likert scales and were included in EFA. Here, the principal component extraction with Varimax rotation based on Eigenvalues (> 1.00), KMO = .836, χ^2 (N = 204, 300) = 3282.78, p < .001 were executed. In addition to that, KMO (Kaiser-Meyer-Olkin) was applied in order to gauge the adequacy of applying a factor analysis on the given dataset. This test aims to measure the sampling adequacy for each variable in the model and complete the model. A sample is found adequate for a factor analysis in case the KMO value exceeds the 0.6 mark. Therefore, looking at the presented KMO value (.836) it is possible to argue that sample is of intermediate to high adequacy. The resultant model explained 75.1% of the variance before the seventh component, which the scree plot (Appendix A.1) depict for the prominent factors. The EFA has shown that the measured items of brand awareness ('awr') and PIs ('p I') were positively correlated to their corresponding components. The second item of perception of alignment scale loaded on the same factor as the items of brand awareness, indicating a correlation here. In regard to the items of the BA scale, items one to five have been loaded on the same factor, whereas items six to eight loaded on their very own factor. Therefore, the scales have been renamed to active brand attitude and passive brand attitude, respectively. In addition to that, the items of credibility loaded on two different factors, as well. Items one, two and five loaded on

one factor, which has been called *expertise* and items three and four have kept their description (i.e. credibility). The remaining scales and corresponding items all loaded on their respective component. The factor analysis sanctioned that all items had a satisfactory factor loading of < -0.45 or > 0.45 (i.e. an absolute value of > 0.45). A scree plot containing the Eigenvalues and the factor loadings is presented in Appendix A.1.

Following that, the newly generated and established scales have been tested for their internal consistency using Cronbach's alpha, which is a commonly used indicator for reliability testing of scales. In order to consider a scale as reliable, the value for Cronbach's alpha should result in a value bigger than 0.7 (Tavakol & Dennick, 2011). The Cronbach's alpha value for brand awareness measured 0.85, indicating a good reliability. The newly generated scales for active BA and passive BA resulted in very good Cronbach's alpha values, whereby the first scale resulted in 0.92 and the second scale in 0.9. The PI scale yielded a low value of 0.38. However, as the output indicated that with the removal of the reversely coded item ("I have no intention to buy this product."), the scale's Cronbach's alpha value increases to 0.86. In regard to the items of credibility and truthfulness, the reliability test has resulted in a value of 0.8 and 0.69. Due to the fact that the scale of truthfulness yields a Cronbach's alpha value of < 0.7, reliability cannot be guaranteed. Therefore, it has been decided that this scale will be dropped for further analysis. Lastly, the remaining items of the perception of alignment scale yielded a low Cronbach's alpha value of 0.378, however, after the removal of the reversely coded item ("The posts differ completely.") the value was increased to 0.705. Appendix A.2 depicts all factor loadings and their respective Cronbach's alpha value.

In order to evaluate the yielded factors further, a CFA has been conducted, as a way to accompany Cronbach's alpha. In order to conduct a CFA, the model needs to be fit to the data. In order to do so, the lavaan package (version 0.5-23) (Rosseel, 2012) in R version 3.3.1 has been employed. The latent factors have been standardized, which allows a free approximation of all factor loadings. The fit of the first model, which has been created based on the output of the exploratory factor analysis, yielded a CFI value of 0.894, which is not sufficient (Bentler, 1990). The analysis showed that there is a very low loading of 0.2 on the first item of the scale "Perception of Alignment". In order to improve the fit of the model, this item has been removed. The following model fit was low, however sufficient, with a CFI of 0.908 (> 0.9), and a good RMSEA value of 0.057 (< 0.08) 90% CI(0.03, 0.06) (Browne & Cudeck, 1992). Following that,

the average variance extracted (AVE) value needs to be investigated in order to assess the scale's convergent validity. Using R and lavaan's functions, the value for AVE exceeds the required 0.5 and yields a total value of 0.688. The AVE values for each factor can be seen in the table 7. There it is possible to see that each factor exceeds the value 0.5, allowing one to argue that the scales do yield convergent validity. Consequently, it is possible to state that CFA did confirm the output of EFA. In order to use the newly generated scales for further analysis the mean value of the corresponding items of a scale was calculated. A figure with the respective factor loading can be viewed in Appendix A.3. For further analysis the averages of the scales were computed and used as the tested variables.

Brand	Active	Passive	Purchase	Credibility	Perception	Total
Awareness	Brand	Brand	Intentions		Alignment	
	Attitude	Attitude				
0.69	0.84	0.81	0.70	0.64	0.63	0.75

Manipulation checks

For all the presented conditions of this research, 6 manipulations in regard to source credibility have been implemented into the images, by changing the values for likes, followers, posts, and following. In addition to that, within the biography of the SMI a verification batch and a website link have been implemented. In order to question the respondents for the manipulations (i.e. a manipulation check), five items focusing on source credibility have been placed half way through the survey. Those items were as follows: "I believe this influencer is an expert."; "I believe this influencer is experienced."; "I believe this influencer has personal experience with the product."; "This influencer does not make false claims to me."; "This influencer is knowledgeable.". Moreover, three manipulations in terms of visual alignment have been implemented into the experiment based on the results of the alignment testing, as discussed previously. Therefore, a manipulation check has been implemented into the experiments, questioning the respondents with the following items: "Both posts depict the same content,"; "In

both posts I can clearly recognize the product."; "The posts differ completely." (reverse item); "I get the same feeling from both posts."; and "I like both posts equally."

The first manipulation check for perception of alignment was examined using the ANOVA test statistic, due to the fact that independent variables, in this case the manipulations of visual alignment between brand and SMI, are ordinal and the dependent variable (i.e. credibility) is a continuous measurement. In addition to that, through the Scheffe post hoc test, one can compare the mean values of the different categories.

condition	Mean	Std. Deviation	Ν
HA	4.951	1.3097	71
MA	5.107	1.3074	61
LA	5.451	1.1813	72
Total	5.174	1.2771	204

Table 9: Descriptive Statistics of Perception of Alignment per Condition

Table 9 contains the descriptive statistics of the scale of perception of alignment, where a value of 1 would represent strong agreement and 7 strong disagreement. Looking at the descriptive of the test, the comparison of the mean values of the categories allows the detection of significant group differences. Based on that information it is possible to presume that between the conditions of high alignment, and low alignment a statistically significant difference in means would be observed. In order to put this assumption under test, an ANOVA test was implemented. ANOVA revealed that there is a weak significant main effect (p < .10) for the manipulations of visual alignment and perception of alignment, F(2,201) = 2.92, p = .056 (with alpha = 0.1), partial $\eta^2 = .03$. Following that, the Scheffe's post hoc test was applied, which yielded a weak significant difference in means between the conditions of high alignment (M = 4.95, SD = 1.31) and low alignment (M = 5.45, SD = 1.18), p = .063. In spite of that, Scheffe's post hoc test did not reveal a significant difference in the mean values between the conditions of high alignment (M = 4.95, SD = 1.31) and medium alignment (M = 5.11, SD = 1.31), p = .779. To that end, a significant difference between medium alignment (M = 5.11, SD = 1.31) and low alignment (M =5.45, SD = 1.18), p = .296, was observable. Based on that information, it is possible to confirm the previously stated assumption that there is a weak significant difference in terms of means between high visual alignment and low visual alignment, and thus it can be concluded that the manipulation was partially successful.

The second manipulation check for credibility utilized ANOVA test statistic, where Scheffe's post hoc test was applied, as well. The descriptive statistics of the credibility check indicate, that there is a potential significant difference in the mean values between high alignment and low alignment. In order to test this assumption, the ANOVA test statistic was examined.

condition	Mean	Std. Deviation	Ν
HA	4.643	1.193	71
MA	4.454	1.159	61
LA	5.195	1.121	72
Total	4.781	1.195	204

Table 10: Descriptive Statistics of Credibility per Condition

Again, the table 10 contains the descriptive statistics of the scale of credibility, where a value of 1 would represent strong agreement and 7 strong disagreement. In this case, ANOVA revealed a significant main effect for the conditions and credibility, F(2,201) = 7.53, p < 0.001, partial $\eta^2 = .07$. Following that, Scheffe's post hoc test has been applied. This test shows that there is a significant difference in mean values between conditions of high alignment (M = 4.64, SD = 1.19) and low alignment (M = 5.2, SD = 1.2), p = .019. In addition to that, the post hoc shows that there is a significant difference in means between the categories of medium alignment (M = 4.45, SD = 1.16) and low alignment (M = 5.2, SD = 1.2), p = .01. Lastly, the test revealed that there is not a significant difference between the conditions of high alignment (M = 4.64, SD = 1.19 and medium alignment (M = 4.45, SD = 1.16), p = .645. Consequently, the manipulation check in this case was only partially successful, as well.

Hypothesis testing

This section of the paper examines and discusses the six hypotheses depicted in the conceptual model (figure 4). Firstly, it was decided to test for a significant relationship between visual alignment (independent variable) and BA (dependent variable), which is labeled as H2a in the conceptual model; and the possibility of mediation through credibility, which is labeled as H2c. In addition to that, the individual relationships between visual alignment and credibility, which is denoted as H2b in the conceptual model, and credibility of the SMI and BA, which is denoted as

H1a. Furthermore, as additional, supplementary analyses the direct relationships between credibility and PI (denoted as H1), and the effect of BA on PI of the consumer (H2d). The remaining hypotheses were examined using the SPSS add-on PROCESS macro (Hayes, 2012). Furthermore, it is important to point out that the analyses based on a bootstrap sample of 5000, and the generation of biased-corrected estimates and confidence intervals of 95% were used (Hayes, 2012).

Effect of Visual Alignment between Brand and SMI on BA (H2a) and Mediation through SMI Credibility (H2b, H2c)

In terms of hypothesis H2a, it was hypothesized that the brand's visual alignment (independent variable) with the SMI has a significant positive effect on BA (dependent variable) of the consumer. In addition to that, the third hypothesis (H2c) assumed that the SMI's credibility mediates the effect of visual alignment on BA, and in case of high credibility, BA will be positive. In order to test these claims, PROCESS' Model 4 (figure 8), which describes the simple mediation model, was employed. Notably, this model is based on the mediation analysis popularized by Baron and Kenny (1986) (Hayes, 2009). These approaches stipulate that a mediation occurs when the successive conditions are achieved. The path c describes the aggregate direct effect between the independent variable (i.e. X) and the dependent variable (i.e. Y). The representation of the effect between the independent variable and the mediation variable (M_i) is denoted as path a in the used model. In addition to that, path b represents the correlation between the mediator variable M_i and dependent variable Y, in case that the independent variable X and mediator variable M_i envisage Y. To that end, the denotation of c - prime (c') illustrates the effect of X on Y controlling for M_i's effect on Y; X then, should not show any (Hayes, 2017).

PROCESS macro is able to incorporate the heteroscedasticity-consistent standard error estimator, which also allows to reduce bias. Despite that, it is not capable of assessing the normality of errors, which has been tested separately. The assumption was tested by examining the normal probability plots for the respective dependent variables of each regression analysis (patch a, b, and c). Based on the investigation of the P-P plots it is possible to state that the assumption was only met in regard to the dependent variable of credibility. The remaining dependent variables did not meet the requirement (see Appendix B). Therefore, these variables have been transformed by computing their square root due to the negative skewness, however,

such did not yield normality of errors, either. Nonetheless, literature argues that through the implementation of a bootstrap sample of 5000 the assumption of normality can be ignored (Preacher & Hayes, 2004).



Figure 8: Conceptual diagram PROCESS model 4 (Hayes, 2013)

For alignment, an ordinal variable was created, where 1 represents high alignment, 2 represents medium alignment and 3 represents low alignment. In regard to the mediation analysis, X (independent variable) represents visual alignment, Y (dependent variable) represents BA, and M_i (mediator) represents credibility.

The first condition where X predicts Y (i.e. path c), so in this case the level of visual alignment on active brand attitude did yielded a reasonably significant result, F(1,198) = 2.95, p = .044 (one-tailed), $R^2 = 0.02$. Alignment as a predictor was found as moderately significant in terms of active brand attitude, $b^* = 0.12$, t(198) = 1.72, p = .044 (one-tailed). Hence, it is possible to argue that the level of visual alignment moderately predicts active brand attitude. The unstandardized coefficient (b=0.15) indicates that when visual alignment was increased by one unit, active BA would increase by .15 unit. The second condition, where the mediator variable is predicted by the X variable (i.e. path a) has resulted in a strongly significant model with F(1, 198) = 7.19, p = .008, $R^2 = .035$. This analysis showed that the independent variable - visual alignment - predicts credibility, $b^* = -0.19$, t(198) = -2.68, p = .008, where the standardized correlation statistic (b^*) resulted in a negative value due to prior reversely coded the variables. In this case, however, it was possible to show that visual alignment has a strong, significant, and positive effect on credibility. In addition to that the unstandardized coefficient (b = -0.27) indicated an increase of 0.27 for active BA, when qualitative visual alignment (ordinal category) is increased by one unit. The third condition, which views the independent variable and the

mediator as the predictor of Y, thus level of visual alignment and credibility predict active BA, resulted in a significant model, F(2, 197) = 3.32, p = .038, $R^2 = .033$. Path b of this model, which is described as the mediator predicting Y, indicates a significant influence, $b^* = 0.14$, t(197) = 1.91, p = .029 (one-tailed). Hence, regression showed that credibility has a positive significant influence on active BA. In order to show that there is a traditional mediation, patch c' which shows that X does not predict Y anymore, and hence needs to result in an insignificant outcome. This test showed that the level of visual alignment still has a significant effect on active BA, $b^* = 0.15$, t(197) = 2.06, p = .041, showing that there is not a traditional mediation in this model. Furthermore, its coefficient increases in size which is indicative of 'negative mediation' in which the IV's effect increases in the presence of the mediator.

Due to the fact, that prior factor analysis loaded the credibility scale onto two different factors (i.e. active BA and passive BA the analysis was conducted again for the passive BA measurement instrument. The c path in this analysis has revealed a significant result, F(1, 198) =6.15, p = .007 (one-tailed), $R^2 = 0.03$. It showed that visual alignment does predict BA, $b^* =$ 0.17, t(198) = 2.48, p = .007 (one-tailed). Hence, in this case it shows that alignment between influencer and brand is a strong positive significant predictor of BA. As visual alignment values are in reverse of their qualitative interpretation, each increase in qualitative visual alignment (ordinal category) contributes to 0.25 of the passive BA variable. The second condition of the analysis is that X variable significantly predicts the mediator (path a). This examination resulted in a significant outcome, F(1, 198) = 7.19, p = .008, $R^2 = 0.035$. Visual alignment was found to be a significant predictor of the credibility, $b^* = -0.19$, t(198) = -2.68, p = .004 (one-tailed), where, again, the standardized coefficient (b^*) is negative due to prior reverse coding. In other words, the output of the regression analysis has shown that visual alignment is a strong, positive, and significant predictor of credibility. Therefore, it is possible to state that the second criterion of the mediation analysis was met. The third condition of the mediation analysis, in this case, visual alignment and credibility predicting passive BA, did yield a significant result, F(2, 197) =3.16, p=.045, $R^2 = 0.031$. Here, it was found that credibility is not a significant predictor of passive BA, $b^* = 0.032$, t(197) = 0.45, p = .328 (one-tailed). The last benchmark of the analysis, which states that X does no longer predict Y (c' path), with the same regression model showed that there is a significant effect, $b^* = 0.18$, t(197) = 2.52, p = .013. Thus, not only does visual alignment (X) remain significant, its effect has increased, which is indicative of 'negative

mediation'; that is, in the presence of the mediator (credibility), the impact visual alignment has become even more pronounced.

Effect of Credibility on Active and passive BA (H1)

The first hypothesis of this thesis (H1) asserts that credible SMI have a significant positive influence on one's BA. The relationship of the variable was tested using a linear regression model – credibility, in this case, acted as the independent variable and BA as the dependent variable. Again, based on the prior EFA and CFA the scale of BA was divided into active and passive BA. Therefore, the regression model will be applied twice for the respective dependent variable. Prior to conducting the analyses, the data was checked for the assumptions of linear regression, i.e. the variables were examined for their normality of residuals (errors) and homoscedasticity.

The assumption check for normality of residuals, with active BA as the dependent variable, showed the residuals are strongly nonnormally distributed (see Appendix C.1). In order to possibly improve the distribution, natural logarithm (LN) transformation on the dependent variable was conducted. In this case normality of residuals was also not achieved (see Appendix C.2). In terms of homoscedasticity it is possible to see (Appendix C.3 and C.4) that error variance is moderately constant, thus allowing one to view the data as homoscedastic. In this case, it is important to point out that the results are not completely reliable, as the effects (e.g., regression coefficients) might be biased. Regarding passive BA as the dependent variable, the assumption test for normality of residuals showed that the data is moderately normally distributed (see Appendix C.5). Transformation of the data using LN, did not significantly improve the distribution of the residuals (see Appendix C.6). In regard to the assumption of constant variance (homoscedasticity), the plot in Appendix C.7 shows that the homoscedasticity is high and therefore both assumptions are met in this case.

The first liner regression analysis was conducted using credibility as the independent variable and active BA as the independent variable. The analysis revealed a weak and significant effect F(1, 198) = 2.369, p = .063 (one-tailed), and therefore is suitable for predicting the effect of credibility on active BA: 1% of the variance can be explained by credibility ($R^2 = 0.01$). Furthermore, the analysis showed that there is a weak, positive, and significant effect on the dependent variable ($b^* = 0.11$, p = .063 (one-tailed), 95% CI [- 0.03, 0.21]). Based on that, it has been shown that credibility is a weak predictor of active BA.

In order to find the prediction power of credibility on passive BA a second linear regression analysis was conducted. The analysis revealed a strongly nonsignificant result, F(1, 198) = 0.001, p = .490 (one-tailed), $R^2 = 0.0$, indicating insufficient predictive power of the test. The analysis demonstrated a strongly nonsignificant output, $b^* = -0.002$, p = .490 (one-tailed), 95% *CI* [- 0.15, 0.14]). Based on the results it can be said that credibility does not have a significant effect on passive BA.

Effect of Active and Passive BA on PI (H2d)

Hypothesis 2d states that BA has a significant positive effect on PIs. In order to test the relationship between the two variables, where BA acts as the independent variable and PI as the dependent variable, a linear regression was conducted. A linear regression analysis seemed applicable due to the fact that both instruments were viewed as interval measurement types. Since, linear regression assumes that the normality of residuals (errors) and homoscedasticity, both aspects have been analyzed prior any further analysis. The examinations showed that PI yields normality of residuals (errors) in both cases, i.e. with active BA and passive BA as the independent variables. It is important to point out that in the case of passive BA as the predictor for PI, it did not fully yield normality of residuals, however, as shown in the plot (Appendix D.3) it is close to normality and therefore this assumption will be viewed as fulfilled for further analysis. In terms of homoscedasticity the plot reveals that in case of active BA as the independent variable the data does not yield homoscedasticity. The plot in appendix D.2 shows that the error variance of PI when predicted by active BA, is more notably denser at the right side of the plot, indicating heteroscedasticity. As an attempt to improve the homoscedasticity it was decided to transform the dependent variable using the LN. The plot did not reveal any improvements in terms of homoscedasticity; therefore, the second assumption could not be met (see Appendix D.5). In case of the homoscedasticity of PI predicted by passive BA, it is possible to see in the plot (see Appendix D.4) that the variance for residuals seem to be more constant than in the case of active BA. In order to check whether homoscedasticity of PI predicted by passive BA can be improved, the variable for PI previously transformed was plotted. The plot (see Appendix D.6) shows that the transformation of the variable does not yield any significant improvements. Hence, in both cases the second assumption of constant error variances was not met. Due to that, it is necessary to state the results of the examination are not be completely reliable, since the regression coefficients might be biased.

The linear regression analysis was conducted, with the variable of active BA as the independent variable and PIs as the depend variable. The output of the regression analysis shows that the there is a significant effect, F(1, 198) = 68.69, p < .001 (one-tailed). The regression model is therefore suitable for predicting the effect of active BA on PIs, nonetheless, the predicting power is mediocre: 26% of the variance in PIs can be explained by the independent variable active BA ($R^2 = 0.26$). To that end, it is possible to state that active BA has a moderate, positive, and significant influence on PI ($b^* = 0.51$, p < .001 (one-tailed), 95% *CI* [0.54, 0.88]). Therefore, in the case of active BA, H2e is fully supported.

A second analysis was conducted in order to test the effect of passive BA on PIs, as well. The analysis here yielded moderate, positive, and significant results as well, F(1, 198) = 32.886, p < .001 (one-tailed). Therefore, the model is use for predicting the effect of passive BA on PIs. 14% of the variance in PIs can be explained by passive BA ($R^2 = 0.14$), making the models predicting power acceptable. Based on that is possible to conclude that passive BA has a moderate, positive, and significant effect on PIs and therefore does predict such ($b^* = 0.38$, p <.001 (one-tailed), 95% *CI* [0.28, 0.58]). Again, herewith it was possible to confirm H2e in regard to passive BA. Therefore, it is possible to argue that the regression analysis was able to fully support H2d, confirming results of prior research.

Conclusion

The state of influencer marketing through opinion leaders has shifted immensely throughout the last decade. Traditional influencer marketing heavily relied on celebrities and their popularity in order to market their products. Nonetheless, with the development and the establishment of social media this factor has changed, where now non-celebrities have gained immense power through their popularity on social media. Therefore, general marketing has reallocated its focus from traditional celebrities (i.e. football players, musicians, etc.) to the new wave of opinion leaders, called SMI. A major difference between the traditional influencer and the new and modern SMI is the proximity to their audience. Due to that proximity that SMIs have with their audience, eWOM is highly effective and can change the consumer's BA (Bhatt et al., 2013). A broad range of literature has investigated such phenomena and confirmed that SMI's are highly influential in regard to their audience and thus can mediate a positive BA and therefore stimulate their PI (Baur & Nyström, 2017). Nevertheless, a wave of recent studies has investigated the role of visual eWOM and its effect on consumers (Lin et al., 2012). Studies have shown that visual eWOM has a significant effect on product interest and more importantly PIs (Koponen, 2017; G. Lee & Tussyadiah, 2016; Lin et al., 2012). Moreover, it has been shown that consumers have a preference for visual communication (Abdullah et al., 2016), which has become through the nature of social media more and more important. Another aspect that is crucial in terms of marketing and SMI is the factor of source credibility. Literature argues that source credibility is highly important and has a significant effect on the consumer's BA and the advertisement itself (Bhatt et al., 2013). Therefore, it is possible to question the aspect of visual eWOM induced through SMIs, which does not reflect their image from the perspective of their audience. In order to answer such, it has been proposed that the visual alignment between the SMI and the brand itself has a significant and positive effect on their credibility and therefore BA. Therefore, the previously stated research question has been developed: To what extent does the visual depiction of social media influencers and brands' Instagram posts - and their alignment - affect the social media influencer's credibility, and the consumer's brand attitude and purchase intention? Hence, an online experiment was conducted, which based on the hypotheses to answer this question.

Summary of Findings

The first hypothesis (H1) of this study stated that credibility does have a significant influence on BA. This research was only able to partially and weakly confirm this hypothesis through the analysis of the experimental data. In the case of active BA, the analysis yielded weak results, whereas in the case of passive BA the analysis was not concluded due to the lack of appropriate model fit. Nonetheless, when looking at the mediation analysis and the respective path (i.e. path b) that describes the relationship, the analysis yielded significant and nonsignificant results, for active and passive BA respectively. Here, it was decided to follow the outcome of the separate analysis of H1; therefore credibility will be viewed as a weak predictor of active BA, and nonsignificant in terms of passive BA. Therefore, it can be stated that this analysis only moderately and weakly supports prior findings by Bhatt et al. (2013) and Erdogan (1999), that BA can be predicted by credibility. This outcome shows as well that credibility is a mild determinant during the process of information search, which is a part of consumer DMP. Consequently, in case the consumer is exposed to eWOM through a SMI with low source credibility, such eWOM will be disregarded in the next step, the evaluation of alternatives, of the decision making process, and in case of the exhibition of high credibility, the advertised product will be evaluated in the next step and might be weighted differently based on the perceived amount of credibility.

The subsequent hypothesis (H2a) stated that the visual alignment between SMI and brand has a significant positive effect on BA. In order to test the assumption, three conditions have been created for the experiment, which were based on prior computer-mediated analysis through topic modeling and distance calculations using Word Mover's Distance, in order to determine the level of alignment with the respective brand a SMI exhibits. Again, the analysis was conducted twice; once for active BA and once for passive BA. The analysis showed in case of active BA, that there was a moderate significant influence, induced by visual alignment. Such an outcome was strengthened through the case of passive BA. Here, the regression analysis showed that there was strong, positive and significant effect induced by visual alignment. Due to the lack of research focusing on visual alignment between SMI and brand and its effects, the outcomes of the analyses do not confirm any specific prior research. Nonetheless, the results could be viewed as an indicator for the importance of visual product depiction, meaning in case of high alignment, product depiction is similar and vice versa, and the resulting mental imagery, which, as concluded by a multitude of previous research, is highly influential in terms of BA and PI (Babin & Burns, 1997; Elder & Krishna, 2011; Mikhailitchenko et al., 2009). Hence, it is possible to argue that the analysis was able to confirm such findings. Furthermore, the strongly significant outcome of the analysis confirms the importance of visuals and visual eWOM. As stated previously in this thesis, visual eWOM is highly influential on the consumer's product interest and PI (Koponen, 2017; G. Lee & Tussyadiah, 2016; Lin et al., 2012), however, the results here show that visual eWOM based on visual alignment is a strong predictor of BA, as well. Therefore, this outcome adds to existing knowledge showing a strong correlation between visual alignment (and the resulting visual eWOM) and BA.

H2b of this thesis hypothesized that the SMI's visual alignment with a brand has a significant positive influence on credibility. The analysis resulted in a strong, positive, and significant effect, showing that visual alignment is a strong predictor of credibility. The confirmation of the hypothesis indicates the importance of visual alignment, i.e. similar product depictions between SMI and brand, and the resulting mental imagery in terms of credibility. The positive outcome shows that visuals have more determining power than previously thought, where prior research only indicated its high influential power in terms of BA and PI. Herewith, it is possible to argue that visual eWOM induced through visual alignment can contribute to one's eWOM credibility, which describes the perceived trustworthiness in regard to an eWOM message (Park, Wang, Yao, & Kang, 2011).

The third hypothesis (H2c) theorized that credibility mediates the effect of visual alignment on BA. In this case, both instances of active BA and passive BA needed to be taken into consideration. Both variants of mediation (using the distinct types of credibility as mediator) exhibited the reverse of mediation (called suppression or negative mediation). Conceptually, this could mean that in circumstances when credibility matters (e.g., there is variation in credibility), the effect of visual alignment will be enhanced. This outcome again demonstrates the importance of visual alignment in case of eWOM credibility and source credibility. Moreover, Park and Lee (2008) argue the importance of credibility in terms of eWOM, and therefore also visual eWOM, in an online environment, indicating the significance that visual alignment. Again, these results emphasize the confirmation of H2b and its contribution to existing literature.

H2d, the last hypothesis of this thesis, speculated that BA has a significant effect on one's PI. The results of the linear regression analysis demonstrated that BA had a significant effect on

PI and therefore supported the claim. These findings further reinforce prior concepts; the HOE model (Lavidge & Steiner, 1961) and the consumer DMP model (Nilson & Dewey, 2006). These two concepts argue that the attitude of an individual towards a brand would influence their purchasing behavior, where positive BA leads to an increase in PI, and negative BA leads to a decrease in PI. Additionally, the outcome of the analysis is greatly aligned with preceding studies of Korzaan (2003) and Prendergast et al. (2010) who demonstrated that a consumer's attitude towards a brand is highly influential on their purchase behaviour.

Theoretical and Practical Implications

Generally speaking, this research is able to depict both theoretical and practical implications. Firstly, and most notably, this thesis has shown that the visual alignment between brand and SMI affect BA, whereby the effect on active BA was moderate and on passive BA was strong. This finding emphasizes the outcome of prior research which showed that visuals eWOM does have a significant effect on product interest and PI (Koponen, 2017; Lee & Tussyadiah, 2016; Lin et al., 2012). Even so, it was able to confirm the importance of visual alignment and its role as a determinant factor, as well. Such finding has not been depicted by previous scholars as of now, and therefore provides additional insight to existing studies and emphasizes on the importance of alignment between influencer and SMI. This finding ties in with the second major finding of this study, which demonstrated the strong effect of visual alignment on credibility. As mentioned previously, it has been argued that credibility is a determinant factor for eWOM, and therefore visual eWOM in an online environment (Park & Lee, 2008). Based on the premise that credibility is strongly influenced by visual alignment, it is possible to argue that higher visual alignment between the SMI and the corresponding brand increases one's credibility and therefore eWOM power. In addition to that, the concept of the information adoption model depicts source credibility as a determining factor for adopting a piece of information (Arumugam & Omar, 2015). Consequently, this indicates the significant influence of visual alignment in terms of one's willingness to accept information. Therefore, it is possible to argue that the incorporation of visuals with high visual alignment on social media yield a positive effect on one's credibility and thus one's willingness to adopt certain information. Due to its impact on eWOM and the information adoption model, a crucial link to the DMP can be argued. Specifically, during the phase of the information search, visual alignment can yield a crucial impact on the consumer, where positive eWOM, backed up by high credibility induced through visual alignment will lead

to incorporation of the recommended product (or brand) in the following phase - evaluations of alternatives. This outcome of this thesis fills a gap in literature. So far, the effects of visuals have only been linked to general product interest and its possible negative and positive effects on PI.

In terms of practical implications, it can be argued that SMIs should share images that yield similar characteristics as the images of the corresponding brand. Not only will this decision lead to an increase in credibility for the SMI, but also in terms of BA an increase is conceivable. Especially due to its effect of BA, brands must work with SMI with similar characteristics. Another possibility for brands to leverage off this finding is to use brand intervention, where SMIs are paid to promote their products. In this case, brands should arrange the depiction of their product with the SMI in detail in order to enhance visual alignment. Conversely, it is important to point out that such a solution is limited to the working period between both entities, and the SMI's image created prior to the contract cannot be impacted. Therefore, it is still of importance to work with SMIs that are appropriate to the brand's niche. Additionally, it is possible to argue that the SMIs need to post images in a manner to improve their credibility from the viewpoint of their audience. As stated in a variety of scholars, the nature or the type of advocate is a vital determinant of one's perceived credibility (Kapitan & Silvera, 2016). It has been argued that CEOs, for instance, due to their perceived expertise and knowledge are viewed as highly credible. Another scholar has shown that the aspects of passion, transparency, expertise, and consistency are valuable factors in regard to source credibility (Lenhart & Fox, 2006). Consequently, SMI's should aim to reflect their expertise and passion for a certain niche in their visuals. To that end, these should be depicted consistently, meaning that the majority of posted images should yield this information.

Furthermore, preceding research only paid attention to how a product is depicted in terms of its position and location on the image (Elder & Krishna, 2011), but none of the existing scholars at the time of writing this study did investigate the effect of visual alignment on BA. Therefore, one can argue that the corresponding analysis is able to deepen the understanding and signifies the importance of the visual alignment between brand and SMI. The very same can be argued in regard to credibility and its respective determining elements (expertise, consistency, etc.). Other reasons for its significant influence on BA could be the creation of mental imagery, where consumers are able to see how the depicted product is used. Moreover, another aspect that should be taken into consideration is that, through the visual depiction of the product with the

influencer, an experiential stimulus is generated (Jeong et al., 2009). The very same study concluded that emotional experiences are crucial. In this case, the notion of an emotional experience could facilitate through the visual depiction of the influencer and the product, but be even enhanced if the SMI is in a favorable position in the point of view of the consumers.

For those reasons, this research prompts brands to collaborate and work with SMIs who yield expertise in the brand's domain and reflect that expertise through their comments and more importantly images spread on their respective social media platform. Furthermore, brands are recommended to establish contracts with SMIs representing their products, where the visual product depiction is arranged and discussed according to the brand's representations.

Limitations

Despite the fact that the main findings of this research were able to add value to the existing research body of social media advertising, mental imagery and visual eWOM, and the effects of visual alignment on BA and source credibility, it is of importance to state the limitations of the research design.

Firstly, in terms of the preparation of the experiment, it is possible to say that the usage of the API contributed to the limitations of this research. Despite the fact that the API is able to detect objects on images very well, it only provides a limited number of keywords, which might have an effect on the output of the topic modeling algorithm. The limited set of keywords restricts the number of latent topics models that can be extracted through the algorithm. Consequently, there is the possibility of lost latent topics, which eventually would have had an effect on the calculations of alignment.

Moreover, in terms of the statistical analyses conducted during this thesis, a variety of limitations were encountered. First, the regression analyses and their corresponding outcome cannot be viewed as fully reliable due to the usage of ordinal variables. Commonly, a regression analysis uses continues data for its computation. On that note, the assumptions of normality and homoscedasticity have not always been met, which also yields the danger of unreliable results. Moreover, the regression analysis of the H1, with passive BA as the dependent variable did yield an insufficient model fit, leading to unreliable results.

In addition to that, the analysis of the manipulation check did only yield partially significant results, meaning that the validity and reliability of this research can be questioned. Due to the fact that only a weakly significant difference in mean values between high alignment and low alignment, and neither a non-existing significant difference between high alignment and low alignment, nor medium alignment and low alignment have been found, the necessity of alignment between the SMI and brand can be questioned. The previously discussed key result of visual alignment and its effect on BA could be argued based on prior studies, that have indicated that the usage of images in general yield a significant effect on BA (Babin & Burns, 1997; Elder & Krishna, 2011; Mikhailitchenko, Javalgi, Mikhailitchenko, & Laroche, 2009), not necessarily the alignment per se. Another aspect that can be criticized is the lack of attention checks. During the experimentation, credibility has been manipulated by changing the meta data of the influencer and a short background story. Nonetheless, due to the fact that an attention check was not incorporated into the experiment, the validity and reliability of the manipulation of credibility cannot be verified. Furthermore, it has been argued that a fraction of respondents fill out scales thoughtlessly (Hauser & Schwarz, 2016), leading to a lack of validity. In order to counteract such, it widely recommended to implement attention checks (Huang, Liu, & Bowling, 2015), but yet, due to the lack of such implementation validity cannot be guaranteed. In addition to that, the manipulation of meta data in order to evoke the feeling of credibility (or non-credibility) can be viewed as a weak manipulation. Nowadays, most social media users are aware of the fact that one's meta data can be altered through the purchase of followers, likes and comments. This aspect has not been taken into consideration during the experimentation. This factor might have a big effect on the results of the mediation analysis, which yielded insignificant results in terms of a possible mediation of visual alignment on BA through credibility.

Lastly, respondents for the experiment were aggregated through platforms such as Facebook, LinkedIn, and SurveryCircle, which does allow the collection of diverse and representative samples. Mainly, due to the fact that all chosen platforms act as survey exchange platforms, it is reasonable to argue that the majority of participants are academics themselves, and therefore do not represent the indented population. Therefore, the generalizability of the results is questionable.

Future Research

The revolution of online marketing through social media and SMIs has changed the way consumers need to be approached. An enormous amount of research has been conducted yielding a variety of highly important information for marketers. Indisputably, additional detailed research is indispensable for researcher and marketers to copiously understand and leverage the power of social media marketing. Consequently, based on the findings of this thesis a multitude of objectives for additional research are suggested.

Firstly, based on the outcomes for visual alignment and its predicting power, it reasonable to raise the question; in which way does the public internalize alignment? This question is of importance to further understand the importance of visual alignment and uncover latent influence it might hold on the audience of a SMI. Moreover, additional research could expand the usage of SMIs and their corresponding images, and examine the output of the object detection algorithm based on the context of the images.

Secondly, the demographics of participants were not taken into consideration throughout the analyses. Information such as age, gender, and education can play a tremendously important role in understanding the power of visual alignment, and yield new insight important for marketers. Therefore, it is recommended to take this information into consideration during future research. According to social research, gender is a profound indicator of differences in behavior on social media (Mazman & Usluel, 2011). This indicates the importance of including demographics into further research.

The third suggestion is that future research should focus on the negative mediation of credibility, which was highlighted during this thesis. This conclusion yields captivating avenue for forthcoming research since the reasons for such behavior can be investigated in more detail, allowing scholars to achieve an in-depth understanding which might produce attractive input for marketers.

Finally, upcoming research should focus on different social media platforms and investigate whether there are major differences for the studied variables. Potential differences might add to existing scholars in further current understanding of social media marketing, which, again, is of high value for marketers.

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Appendices

APPENDIX A – CONFIRMATORY FACTOR ANALYSIS AND RELIABILITY CHECK OF SCALES



Figure A.1: Scree plot of the factor analysis using principal components extraction)

Item	Brand	Active	Passive	Purchase Credib	oility Alignment
	Awareness	Brand	Brand	Intention	Perception
		Attitude	Attitude		
I know this brand.	.908				
When it comes to the	.895				
depicted product, I was					
able to immediately					
recall the brand.					
In both posts I can	.655				
clearly recognize the					
product.					

Table A.2: Factor analysis with 21 item loadings on a seven factor principal components solution

To what extend ...

is the brand a part of	.860
you and who you are?	
do you feel	.863
personally connected to	
the brand?	
do you feel	.856
emotionally bonded to	
the brand?	
is the brand part of	.867
you?	
does the brand say	.620
something to other	
people about who you	
are?	

are your thoughts and	.865
feelings toward the	
brand often automatic,	
coming to mind	
seemingly on their own?	
do your thoughts and	.868
feelings toward the	
brand come to your	
mind naturally and	
instantly?	
do your thoughts and	.768
feelings toward the	
brand come to mind so	
naturally and instantly	

that you don't have much control over them?

I would consider buying				.772		
this product.						
It is possible that I				.840		
would buy this product.						
I will purchase from this				.703		
brand the next time I						
need a [product].						
If I am in need, I would				.722		
buy this product.						
I believe this influencer					.861	
is an expert.						
I believe this influencer					.823	
is experienced.						
This influencer is					.623	
knowledgeable						
Both posts depict the						.727
same content.						
I get the same feeling						.835
from both posts.						
I like both posts equally.						.725
<i>R</i> ²	30.867	24.676	13.978	32.028	28.436	13.177
Cronbach's a	.851	.923	.900	.861	.796	.705



Figure A.3: CFA-loadings per factor based on EFA output

APPENDIX B: TESTS FOR NORMALITY OF ERRORS OF PROCESS ANALYSIS



Normal P-P Plot of Regression Standardized Residual

Figure B.1 Normal P-P plot of regression 1 standardized residual denoting path a of PROCESS model 4 (credibility as dependent variable)



Normal P-P Plot of Regression Standardized Residual

Figure B.2 Normal P-P plot of regression standardized residual denoting path c of PROCESS model 4 (active brand attitude as dependent variable and visual alignment as independent variable)



Normal P-P Plot of Regression Standardized Residual

Figure B.3 Normal P-P plot of regression standardized residual denoting path c of PROCESS model 4 (passive brand attitude as dependent variable and visual alignment as independent variable)



Figure B.4 Normal P-P plot of regression of residual denoting path b of PROCESS model 4 (passive brand attitude as dependent variable and credibility as independent variable)



Normal P-P Plot of Regression Standardized Residual

Figure B.5 Normal P-P plot of regression standardized residual denoting path b of PROCESS model 4 (passive brand attitude as dependent variable and credibility as independent variable)





Figure C.1: Normal P-P plot of regression standardized residual (active brand attitude as dependent variable)



Figure C.2: Normal P-P plot of regression standardized residual (transformed active brand attitude as dependent variable)

Normal P-P Plot of Regression Standardized Residual



Figure C.3: Scatterplot showing the distribution of errors (active brand attitude as dependent variable)



Scatterplot

Figure C.4 Second Scatterplot showing the distribution of errors (active brand attitude as dependent variable)



Normal P-P Plot of Regression Standardized Residual

Figure C.5: Normal P-P plot of regression standardized residual (passive brand attitude as dependent variable)



Figure C.6: Normal P-P plot of regression standardized residual (transformed passive brand attitude as dependent variable)



Figure C.7 Scatterplot showing the distribution of errors (active brand attitude as dependent variable)

APPENDIX D -- ASSUMPTIONS TEST OF REGRESSION (H2D)



Figure D.1: Normal P-P plot of regression standardized residual (purchase intention as dependent variable and active brand attitude as independent variable)

Scatterplot



Regression Standardized Predicted Value

Figure D.2: Scatterplot showing the distribution of errors (purchase intention as dependent variable and active brand attitude as independent variable)



Figure D.3: Normal P-P plot of regression standardized residual (purchase intention as dependent variable and passive brand attitude as independent variable)



Figure D.4: Scatterplot showing the distribution of errors (purchase intention as dependent variable and passive brand attitude as independent variable)



Figure D.5: Scatterplot showing the distribution of errors (transformed purchase intention as dependent variable and active brand attitude as independent variable)



Scatterplot

Figure D.6: Scatterplot showing the distribution of errors (transformed purchase intention as dependent *variable and passive brand attitude as independent variable)*

APPENDIX E – EXPERIMENT Thesis – Main Survey – Josef – Final – MAIN

Start of Block: Informed Consent

Thank you very much for participating in this study regarding social media influencers on Instagram. This study will take approximately 5 to 10 minutes to complete. Your participation is of tremendous help for this research and future work.

During this research, a variety of questions in regard to brands and social media influencers on Instagram will be posed. Multiple images posted on Instagram will be shown to you, on which most questions will depend on. Therefore, it is of importance that you take your time while looking at the pictures.

Please be aware that your participation is voluntarily, meaning that you can withdraw at any time. Moreover, anonymity is guaranteed at all times. Your information will be kept strictly confidential and the findings will solely be used for this research. There are no "right" or "wrong" answers, so please fill in the questions based on your own experience and opinions.

This research is conducted by Josef Moucachen at Erasmus University Rotterdam. If you have any questions or remarks after this questionnaire, please feel free to contact me at 514726jm@eur.nl.

Please, indicate whether you agree or disagree with the statement.

PS: Sometimes the questions are bugged and you won't see the statements. If that's the case, please reload the page (your progress is saved!).

PSS: The survey is very short so you can continue with your life quickly :) !

O I agree! (1)
O I do not agree! (2)
Page Break

End of Block: Informed Consent

Start of Block: Sample Confirmation

Please, indicate your age range.

Under 21 (1)
21 - 34 (2)

O 35 - 99 (3)

End of Block: Sample Confirmation

Start of Block: General Description

For your information:

All question refer to the **images posted by the respective account.** But feel free to look at the whole image (i.e. everything that is not the post).

End of Block: General Description

Start of Block: High_Alignment_High_Credebility

	Strongly disagree (8)	Disagree (9)	Somewhat disagree (10)	Neither agree nor disagree (11)	Somewhat agree (12)	Agree (13)	Strongly agree (14)
I have the							
ability to							
judge							
product							
performance							
or assess		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
important	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
attributes							
before							
purchase or							
use it. (1)							
I have the							
ability to							
iudge							
nroduct							
performance							
or assess							
their	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
important		<u> </u>	0	0	0	0	0
attributes							
after							
purchase or							
use it. (2)							

Generally, ...

Page Break —

The following image contains a product depiction of a **smartphone** and **various information** about the influencer and the post itself. Now, please look **carefully** at the whole image (i.e. *influencer name; the number of posts, likes, etc.*) and the **post** within itself. Then **read the text underneath** and proceed with the questions.

Romeotan is a very passionate photography and tech enthusiast and has made it a crucial part of his daily life for years. Due to that, the influencer is rich in experiences and has been teaching people for the past 2 years about his experiences and learnings, in regard to photography and photo editing, resulting in high success among his viewers.

Timing First Click (1) Last Click (2) Page Submit (3) Click Count (4)

Page Break -

The following questions refer to the post within the image previously shown. When the question refers to a brand, the brand of the depicted product is meant.

	Strongly disagree (22)	Disagree (23)	Somewhat disagree (24)	Neither agree nor disagree (25)	Somewhat agree (26)	Agree (27)	Strongly agree (28)
I know this							
brand. (1)	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
When it comes to the depicted							
product, I was able to immediately recall the brand. (2)	0	\bigcirc	0	\bigcirc	\bigcirc	0	\bigcirc
Page Break							

In case you were not able to recognize the brand of the depicted product, here is the answer: **Huawei.** From now on everything referred to as **the brand**, refers to **Huawei**. Huawei is a Chinese multinational telecommunications equipment and consumer electronics manufacturer. During this research, the focus will be on their **smartphones**.

To what extent...

	No at all (1)	To a small extent (2)	To some extent (3)	To a moderate extent (4)	To a great extent (5)	To a very extent (6)
is the brand a part of you						
and who you are? (1)	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
do you feel personally connected to the brand ? (2)	0	0	0	\bigcirc	0	\bigcirc
do you feel emotionally bonded to	0	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc

(3) is the brand part of you? (4) does the brand say something to other people about who you are? (5) are your thoughts and feelings toward the brand often automatic, coming to mind seemingly on their own? (6) do your thoughts and feelings toward the brand come to your mind naturally and

the brand ?

0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0



	Strongly disagree (15)	Disagree (16)	Somewhat disagree (17)	Neither agree nor disagree (18)	Somewhat agree (19)	Agree (20)	Strongly agree (21)
I think this							
post depicts							
the truth.	0	0	\bigcirc	\bigcirc	0	\bigcirc	0
(1)							
I don't							
believe in							
what the	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
denicts in	0	0	\bigcirc	\bigcirc	0	\bigcirc	0
the post. (2)							
L com loom							
the real							
product							
features	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
from this		_	_	_	_		
post. (3)							
After seeing							
this post, I							
have been							
accurately							
informed	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
about the		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
product							
information.							
(4)							

	Strongly disagree (15)	Disagree (16)	Somewhat disagree (17)	Neither agree nor disagree (18)	Somewhat agree (19)	Agree (20)	Strongly agree (21)
I would consider buying this product. (1)	0	\bigcirc	0	0	0	0	0
I have no intention to buy this product. (2)	\bigcirc	0	\bigcirc	\bigcirc	0	0	0
It is possible that I would buy this product. (3)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0	0	0
I will purchase from this brand the next time I need a phone. (4)	0	\bigcirc	0	\bigcirc	0	0	\bigcirc



	Strongly disagree (29)	Disagree (30)	Somewhat disagree (31)	Neither agree nor disagree (32)	Somewhat agree (33)	Agree (34)	Strongly agree (35)
I generally							
trust other	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
people. (1)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
It is easy							
for me to		_		_	_		_
trust a	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
person. (2)							
For me,							
trusting a							
person is							
not	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
difficult.							
(3)							
My							
tendency							
to trust a	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
person is	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
high. (4)							



	Strongly disagree (15)	Disagree (16)	Somewhat disagree (17)	Neither agree nor disagree (18)	Somewhat agree (19)	Agree (20)	Strongly agree (21)
I believe this influencer is an expert. (1)	0	\bigcirc	0	\bigcirc	0	\bigcirc	0
I believe this influencer is experienced. (2)	0	\bigcirc	0	\bigcirc	0	\bigcirc	\bigcirc
I believe this influencer has personal experience with the product . (3)	0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0	\bigcirc
This influencer does not make false claims to me (4)	0	\bigcirc	0	\bigcirc	0	0	\bigcirc
This influencer is knowledgeable (5)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc

Page Break

Here you see the two posts (the images uploaded by the respective account), followed by a couple of questions.

One from the **social media influencer (this page)** and one from a **brand (next page)** that acts as an ambassador for the brand.

Please, look closely at them and answer the upcoming questions, genuinely!



7 HOURS AGO

Timing		
First Click (1)		
Last Click (2)		
Page Submit (3)		
Click Count (4)		
Page Break		



Huawei Mobile O

Rules were made to be rewritten. Meet the #HUAWEIP30 Series. #RewriteTheRules consumer.huawei.com/en/phones/p30-pro



13,684 likes huaweimobile Multi-tasking with your work bestie in style 7 HOURS AGD

Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

	Strongly disagree (15)	Disagree (16)	Somewhat disagree (17)	Neither agree nor disagree (18)	Somewhat agree (19)	Agree (20)	Strongly agree (21)
Both posts depict the same content. (1)	0	0	0	0	0	0	0
In both posts I can clearly recognise the product. (2)	\bigcirc	\bigcirc	0	\bigcirc	0	0	\bigcirc
The posts differ completely. (3)	0	\bigcirc	0	0	0	0	\bigcirc
I get the same feeling from both posts. (4)	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0	0	0
I like both posts equally. (5)	0	\bigcirc	\bigcirc	0	0	0	0
9:41			.ul 🗢 🔳				
-------------------------	-------------	--------------------	------------------				
$\overline{\mathbb{C}}$	romeotan		≡				
20	26 posts	1,210 followers	928 following				
C	Pofile Edit						

ROMEOTAN

"a picture says a thousand words" mediacorp artiste/singaporean



121 likes romeotan First class seat with first class view.

7 HOURS AGO

Figure E.1: High Alignment – Low Credibility

9:41			ul 🗢 🔳
C	romeotan		≡
10	3,065 posts	223k followers	928 following
		Pofile Edit	

ROMEOTAN 🥝

"a picture says a thousand words" mediacorp artiste/singaporean romeophotologue.com



11,121 likes romeotan Back in Singapore ! 7 HOURS AGO

Figure E.2: High Alignment – High Credibility

9:41			I 🗢 🔳
\mathbf{O}	theocarow		≡
	728 posts	75,7k followers	866 following
		Pofile Edit	

THEO CAROW 🥏



$$\bigcirc \bigcirc \bigcirc \checkmark$$

 \square

2,111 likes theocarow Back to the 90s - shooting film on film wearing all vintage and the 7 HOURS AGO

Figure E.3: Influencer with Medium Alignment – High Credibility

9:41			I 🗢 🔳
$\overline{\mathbb{C}}$	theocarow		≡
	25 posts	1,320 followers	928 following
		Pofile Edit	

THEO CAROW This life is great. T stay golden. ✓ vegan



 \bigcirc 7

 \square

192 likes theocarow Back to the 90s - shooting film on film wearing all vintage and the 7 HOURS AGO

Figure E.4: Influencer with Medium Alignment – Low Credibility

9:41			.ul 🗢 🔳
C	littlemixico		≡
	3,065 posts	223k followers	928 following
		Pofile Edit	

Dani Rios 🥏

Mexicana II Dallas Kween
Self proclaimed Beauty Guru
Joshua 1:8
littlemixico.com



11,121 likes littlemixico My favorite snack? 7 HOURS AGO

Figure E.5: Influencer with Low Alignment – High Credibility

9:41			.ul 🗢 🔳
C	littlemixico		≡
0	127 posts	1,289 followers	928 following
		Pofile Edit	

Dani Rios

- Hexicana II Dallas Kween
- Self proclaimed Beauty Guru
- Joshua 1:8



362 likes littlemixico My favorite snack? 7 HOURS AGO

Figure E.6: Influencer with Low Alignment – Low Credibility