The influence of consumers' perceived fit between gender of the virtual character and product gender on consumers' Web experiences

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Samenvatting

Steeds meer mensen zijn de afgelopen jaren gaan winkelen op het internet. Het communicatieproces tussen de consument en de verkoper is daarmee drastisch veranderd. In vergelijk met het offline aankoopproces wordt het online aankoopproces door consumenten vaak nog ervaren als anoniem, automatisch, onpersoonlijk en onbetrouwbaar. Gebrek aan vertrouwen in een online aanbieder speelt hierbij een belangrijke rol.

Een mogelijke oplossing voor dit probleem is het inzetten van virtuele karakters. Een virtueel karakter kan gezien worden als sociaal element van een website. Steeds meer websites maken gebruik van virtuele karakters om informatie te leveren en consumenten hulp te bieden bij het aankoopproces. Er is veel onderzoek gedaan naar de invloed van virtuele karakters op de shopervaringen van consumenten. Echter, de invloed van het geslacht van het virtuele karakter in samenhang met het product geslacht op de shopervaringen van consumenten blijft achter.

Dit onderzoek heeft als doel na te gaan in hoeverre de 'fit' die consumenten ervaren tussen het geslacht van het virtuele karakter en het geslacht van het product invloed heeft op de variabelen tevredenheid met het virtuele karakter, geloofwaardigheid van de boodschap, betrouwbaarheid van het virtuele karakter, vertrouwen in de organisatie en aankoopintentie.

Deze studie omvat een 2 (geslacht virtueel karakter: man en vrouw) X 3 (product geslacht: mannelijk, vrouwelijk en neutraal) between-subjects factorial design. Resultaten zijn verkregen via een experimenteel onderzoek met vragenlijsten, ingevuld door 94 mannen en 89 vrouwen. De resultaten laten zien dat mensen een 'fit' ervaren wanneer het geslacht van het virtuele karakter overeenkomt met het product geslacht (mannelijk product - mannelijk virtueel karakter, vrouwelijk product - vrouwelijk virtueel karakter).

Daarnaast is gebleken dat de 'fit' die mensen ervaren een belangrijke voorspeller is voor de waardering op de andere variabelen. Mensen die een hogere 'fit' ervaren zijn meer tevreden met het virtuele karakter, ervaren de boodschap als geloofwaardiger, ervaren het virtuele karakter en de organisatie als betrouwbaarder en zijn eerder geneigd het product aan te schaffen. Tot slot worden er theoretische en praktische aanbevelingen gedaan en worden er suggesties gegeven voor toekomstig onderzoek.

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Abstract

More and more consumers shift to Internet shopping. The communication process between the consumer and the vendor is dramatically altered. Compared to offline shopping, the online shopping experience may be viewed by consumers as anonymous, automated, unreliable and lacking human warmth. Consumers do not trust online retailers enough to engage in online transactions.

A solution is the use of virtual characters on websites. A virtual character can be seen as a social element of a website. The number of websites that use virtual characters to deliver product information and help consumers during their buying process are increasing. Until now especially the general influence of virtual characters on consumers' shop experiences has received attention. However, there is little research dealing with the influence of the gender of the virtual character with regard to different product gender.

This experimental research investigates the influence of consumers' perceived fit between the gender of the virtual character and the product gender on the variables satisfaction with the virtual character, credibility of the message, trustworthiness of the virtual character, trust in the retailer and buying intention.

A 2 (gender virtual character: men and women) X 3 (product gender: masculine, feminine and neutral) between-subjects factorial design was conducted. Ninety-four male and eighty-nine female participants (N = 183) performed the experimental study and filled in the online questionnaire. The results show that people perceive a fit when the gender of the virtual character matches the gender of the product (highly masculine product – male virtual character, highly feminine product – female virtual character). In the neutral situation no significant differences are found.

Another notable finding is that people's perceived fit is an important predictor for the rating on the other variables. People who perceive a higher fit are more satisfied with the virtual character, perceived the message of the virtual character as more credible, perceived the virtual character and the retailer as more trustworthy and were more likely to buy the product. Finally, theoretical and practical implications are discussed and suggestions for future research are presented.

Keywords: virtual characters, online shopping behavior, gender differences, trustworthiness

1. Introduction

The Internet is an important communication and transaction system and is expected to grow in the near future. Many people access the Internet daily for numerous activities such as searching for information, job opportunities and entertainment or shopping online (Farag, Schwanen, Dijst & Faber, 2006; Hargittai & Shafer, 2006). An increasing number of consumers shift to Internet shopping and the communication process between the consumer and the vendor is dramatically altered. The vendor is replaced by an electronic medium and physical information about the vendor may be unavailable (Cyr, Hassanein, Head & Ivanov, 2007; Häubl & Trifts, 2000; Nowak & Rauh, 2006). Moreover, compared to offline shopping, the online shopping experience may be viewed by consumers as anonymous, automated, unreliable and lacking human warmth because of the absence of pleasurable experiences, social interaction, and personal consultation (Cyr et al., 2007; Holzwarth, Janiszewski & Neumann, 2006). Therefore consumers often hesitate to buy from online retailers. In essence, people do not trust online retailers enough to engage in relationship exchanges involving money and personal information with them (Hoffman, Novak & Peralta, 1999). Many researchers claim that the presence of online trust in consumer-website interactions is crucial to the ultimate success of the online exchange process (e-commerce) (Corritore, Kracher & Wiedenbeck, 2003; Teo & Liu, 2007).

A solution is the use of virtual characters to deliver product information, help consumers with their purchases and increase consumers' trust (Holzwarth et al., 2006). Research indicates that 90% of the online consumers prefer some sort of human contact when they are engaging in online transaction (Zhu, Benbasat & Jiang, 2010). In the recent years, researchers have begun to explore the influence of virtual characters on consumers' attitude and behavior in online retail environments (for example, Holzwarth et al., 2006; Nowak & Rauh, 2006; Wang, Baker, Wagner & Wakefield, 2007). The use of virtual characters on retail websites is regarded as one of the most exciting developments in the field of information technology and the adoption of these characters is expected to rapidly grow by retail websites (Wang et al., 2007).

The inclusion of virtual characters on retail websites to facilitate interactions with consumers has increased without much information about the influence of the designs or appearances of virtual characters on consumers' attitude and behavior (Fiedler, Haruvy & Li, 2011; Nowak & Rauh, 2006). Despite the frequent deployment of virtual characters online, it is still unclear whether people react in the same way towards male and female virtual characters. There is little theoretical research dealing with how consumers differ in attitude towards male and female virtual characters. Men and women behave and communicate in different ways. People have their own characteristics that are, mostly stereotypically, associated with their gender. That means that men and women behave, communicate and dress according to their gender (Jung & Lee, 2006). It is important to get insight into these differences and how these differences influence the online (shopping) attitude and behavior of men and women

Besides that, the perceived product gender is also an important factor. Products are also gender typed. A number of studies in the consumer behavior literature have addressed that products in the marketplace possess gender (Jung & Lee, 2006; Nowak & Rauh, 2006; Sirgy, 1982). The perception of a product is not only determined by the physical characteristics of the product, but the perception is also formed by other associations, such as stereotypes of the typical user (Sirgy, 1982). Consumers may respond differently to a female virtual character online when they are buying tools than when they are buying make-up because the typical users of tools are men and the typical users of make-up are women. Different product gender may elicit different consumers' responses and may influence the trustworthiness of the virtual character and organization (Jung & Lee, 2006). Understanding why the gender of virtual characters in relation with the perceived product gender influences consumers' attitude and behavior may provide insight for organizations into differences in attitude and buying intention.

The previous findings show the need to shed a light on the effect of gender of virtual characters on consumers' experiences online. More knowledge about the relation between the gender of the virtual character and the perceived product gender will make it easier for organizations to strategically approach which design for a virtual character serves best for them. Until now especially the general influence of virtual characters on consumer shopping behavior online has received attention in studies about the socialness of (retail) websites. Holzwarth et al. (2006) and Wang et al. (2007) found that virtual characters on retail websites facilitate interactions with consumers, reduce consumers' uncertainty and induce consumers' feeling or sense of warmth and sociability. Virtual characters can anthropomorphize the interaction with consumers and make the shopping experience more pleasurable, trustworthy and interpersonal.

The next step is now to take a closer look into the gender of virtual characters on websites of organizations with regard to different product gender. This experimental research can make an important contribution to the literature by providing an explanation of how consumers react on virtual characters with different gender (male vs. female) with different product gender (masculine, feminine and neutral) on retail websites with high-involvement products. This will allow organizations with retail websites to strategically approach their design of the virtual character based on the product gender.

This adds up to the following research question:

To what extent will perceived fit between gender of the virtual character (female vs. male) and product gender (feminine, masculine and neutral) on retail websites influence a) satisfaction with the virtual character b) credibility of the virtual characters' message c) trustworthiness of the virtual character, d) trustworthiness of the retailer, and, e) willingness to buy from the shop?

2. Theoretical framework

2.1 Gender stereotypes

With the continuous rise of virtual characters online, one obvious question pertains to the extent to which the fit between the gender of the virtual character and the perceived gender of the product affect the shopping experiences of consumers. Gender is a psychologically powerful social category that people want to know about others in an interaction (Nowak & Rauh, 2006). People automatically apply gender assumptions to other people, they are gender stereotyping and perpetuating these stereotypes (Jung & Lee, 2006). The concept 'stereotype' according to Jung and Lee (2006) is 'a relatively rigid and oversimplified conception of a group of people in which all individuals in the group are labeled with the so-called group characteristics' (p. 67).

Another important concept is 'gender roles', which refers to a set of social and behavioral norms that a society considers appropriate for men and women to think, look like, and behave (World Health Organization, 2013). Gender roles are culturally determined and the behavior of people is consistent with the gender role that is considered as 'masculine' or 'feminine' (Jung & Lee, 2006). Combining the concept of stereotypes and the concept of gender roles Jung and Lee (2006) suggest that men and women have distinct psychological traits and characteristics and these traits and characteristics are rigidly held and oversimplified by society. Much of the impact that people have on others in society occurs because they correspond with the expectations people have about how the other should behave. Many of the expectations that people have about others arise from gender roles (Eagly, 1983). For example, men are seen as being more aggressive, dominant, competent and persuasive in communication, whereas women are seen as being more reticent, passive and cooperative (Sheehan, 1999).

Dominant behavior by men tends to be well-received and has greater power and status, whereas dominant behavior by women tends to be poorly received. Besides that, the communication style of women is seen by society as socially and emotional oriented whereas men perform a more task-oriented communication style (Eagly, 1983; Nass & Moon, 2000). The language that women choose is more expressive, nurturing, and supportive, while men choose for reactive, self-oriented and opinionated language (Sheehan, 1999). Besides that, Eagly (1983) suggests that men and women differ in how influential and easily influenced they are. Men are more influential while women are more easily influenced by other people. These differences arise largely from formal status inequalities. Eagly (1983) argues that men are more likely than women to have high-status roles. Besides that, in general, evaluations, advices or opinions of males tend to be received as more valid

than evaluations of females (Nass & Moon, 2000). All these traits and characteristics arise from gender stereotypes and gender roles.

Gender stereotyping may influence self-perception and perception of others in society just as it influences the perception and judgment of any object, including products and brands (Jung & Lee, 2006; Nowak & Rauh, 2006). A number of studies in the consumer behavior literature have addressed that brands and products in the marketplace possess gender (Jung & Lee, 2006; Nowak & Rauh, 2006; Sirgy, 1982). The perception of a product or brand is not only determined by the physical characteristics of the product or brand, but these perceptions are also formed by other associations, such as stereotypes of the typical user (Sirgy, 1982). The perception of a product or brand can be formed to a stereotypic image of the generalized user (Sirgy, 1982). For example, the users of the brand Chanel are mainly women, however the users of the brand Hugo Boss are primarily men. The use of a gendered brand or product has advantages and disadvantages. One important advantage of a gendered brand or product is that they use their masculine or feminine association to attract the right target group (men or women) (Grohmann, 2009; Jung & Lee, 2006). However, this advantage could be a hindrance for brands or products trying to extend beyond their current market segment, because these brands or products could be hampered by this strong association (Jung & Lee, 2006).

Gender stereotypes influence the attitude and behavior of men and women. Grohmann (2009) suggests that both men and women need to express their masculinity/femininity through brand or product choice and consumption, but men and women are different in their attitude towards these brands and products. Men perceive a typical masculine brand or product to be extremely masculine and a feminine brand or product to be extremely feminine (Jung & Lee, 2006). Men tend to find their sexual identity, more than women, in products and brands they buy and use (Jung & Lee, 2006). Lii & Wong (1982) indicated that men hold an unfavorable position towards femininity and perceive their own masculinity as more desirable.

With the advent of the Internet gendered attitude and behavior would be minimized compared to offline communication because the Internet presents both men and women with the opportunity to communicate in a way that transcends their biological bodies (Sheehan, 1999). Sheehan (1999) suggests that computer-mediated communication improves conversations between men and women compared to offline communication because men and women are less aware of genders when they are communicating online. Computer-mediated communication (CMC) is described as any communication that occurs via computer-mediated formats (e.g. e-mail, chatrooms, helpdesks, instant messaging) (Qiu & Benbasat, 2005). Computer-mediated communication could reduce gender inequality, because CMC reduces the amount of personal information, like gender,

that people normally find in face-to-face communication (Postmes & Spears, 2002). However, lots of things have changed on the Internet in less than a decade. Nowadays, people reveal a considerable amount of personal information on the Internet, including, name, gender, age, location and education. People can organize the information and can select how and what to convey to others (Walther, Van der Heide, Kim, Westerman & Tong, 2008). Walther et al. (2008) suggests that, besides the personal information, people show behavior and characteristics online that reflect their personality, including gender. When people communicate via CMC and when others are not physically present, people judge others based on the behaviors and characteristics made online. As a result they (unconsciously) apply gender stereotypes to others in the online environment (Walther et al. 2008).

To summarize, these studies in gender differences suggest that gender differences and gender stereotypes still exist online. Numerous differences between men and women in attitude towards masculinity and femininity have been seen in the past decade, differences which in turn appear to influence online behavior. With the advent of Internet-shopping, more and more organizations include virtual characters on their websites to facilitate interactions with consumers. The inclusion of virtual characters in retail websites has increased without much information about the influence of the designs or appearances of virtual characters on consumers' experiences (Fiedler et al., 2011; Nowak & Rauh, 2006). The challenge for organization, then, is to move beyond the current investigations in the offline context and apply these investigations to the online shopping context and investigate the influence of the gender of virtual characters on shopping behavior of consumers.

The question raises which type of virtual character suits best for a particular organization. For example, Tess from Ziggo, Anna from Ikea, Sanne from Wehkamp and Nienke from Nationale Nederlanden, are all female virtual characters on websites of organizations. Based on the current literature, it is expected that these companies choose for a female virtual character because the communication style of female is more socially, cooperative and emotionally oriented. Besides that, women use language that is expressive, nurturing, and supportive (Sheehan, 1999). However, it is unclear whether the perceived gender of the product influences the choice of the female virtual character. Consumers generally expect virtual characters to behave and communicate befitting its appearance (Vinayagamoorthy, Gillies, Steed, Tanguy, Pan, Loscos & Slater, 2006). Getting advice from a male virtual character when buying make-up probably leads to unsatisfied customers, because the virtual character does not communicate and behave befitting its appearance.

In the offline world, interactions with unskilled or inappropriate sales persons are often incongruent and difficult. Such an uncomfortable encounter can often lead to unsatisfied customers and has a negative impact on the credibility of the perceived message (Vinayagamoorthy et al., 2006). For example, presumably for consumers it would be more difficult to accept a female virtual character when buying a typical masculine product or neutral product because generally people assume that women know more about feminine topics or products and men know more about masculine topics or products. Besides that, in general, evaluations, advice or opinions of males tend to be received as more valid than evaluations of females (Nass & Moon, 2000). Considering that consumers perceive fit when gender of the virtual character matches the product gender, the following hypotheses can be stated:

H1a: Consumers prefer a male virtual character when the products are perceived as masculine.
H1b: Consumers prefer a female virtual character when the products are perceived as feminine.
H1c: Consumers prefer a male virtual character when the products are perceived as neutral.

2.2 Social presence

Men and women tend to overuse human social categories, such as gender, by applying them to websites and computers (Nass & Moon, 2000). People all know that the computer is not a person and cannot be treated like a person, because the computer is unaware of the emotions of the user, never expresses emotions of its own and does not possess human traits (Nass & Moon, 2000). Despite such clear and unavoidable evidence of the differences between computers and people, different studies argue that there is strong evidence that people in some way mindlessly apply social rules and expectations to computers (e.g. Reeves & Nass, 1996; Von der Pütten, Krämer, Gratch & Kang, 2010). According to the Social Response Theory, people react socially towards computers and other technologies as long as the situation includes social cues (e.g. Reeves & Nass, 1996; Von der Pütten et al., 2010). Studies suggest that websites with more social cues, such as photos, ensure higher social presence, satisfaction and trustworthiness (Wang et al., 2007). Thus, people apply human social categories, like gender, to the computer realm and these social categories trigger the same scripts, expectations and attributions as in human-human interactions (Nass & Moon, 2000).

Social presence is important in daily human life. Qiu and Benbasat (2005) describe the term social presence as the degree to which a computer-mediated experience is perceived as real instead of mediated. Gefen, Karahanna and Straub (2003) define social presence as "the extent to which a medium allows users to experience others as being psychologically present" (p. 11).

Holzwarth et al. (2006) suggest that in offline situations human sales agents increase attitude towards the retailer, enhance attitudes towards the product(s), and increase consumers' willingness to buy. Besides that, the human sales agent influences also consumers' attitude and satisfaction toward that human sales agent. Online retailers attempt to build a sense of social presence in a similar way as offline by integrating virtual characters on their websites to anthropomorphize the interaction with consumers and make the shopping experience more pleasurable, trustworthy and interpersonal (Holzwarth et al., 2006). Epley, Waytz & Cacioppo (2007) defines anthropomorphism as 'the tendency to imbue the real or imagined behavior of nonhuman agents with humanlike characteristics, motivations, intentions, or emotions' (p. 864).

A virtual character can have different functions like an identification figure, personal shopping assistant, as a website guide or as a conversation partner (Holzwarth et al., 2006). The use of virtual characters is becoming more prevalent with the development of the Internet and computer technology (Messinger, Ge, Stroulia, Lyons, Smirnov & Bone, 2008; Yu, Qin, Sun & Wright, 2012). Most virtual characters interact with the environment through a graphically body such as cartoons or photographs. Some virtual characters are capable to communicate the same verbal and nonverbal means as in human-human communication (e.g. gesture, facial expression, and so forth) (Holzwarth et al., 2006; Yu et al., 2012).

Large organizations, such as Ziggo (Tess, Figure 1), Wehkamp (Sanne, Figure 2) and Nationale Nederlanden (Nienke, Figure 3) have integrated humanlike characters by using photographs of human beings on their website (Wang et al., 2007). These photographs are integrated to enhance interactions with customers. Cyr et al. (2007) found that photographs on websites create social presence and increase online trust. Photographs bring the virtual interaction closer to a face-to-face interaction and increase the feeling or sense of warmth and sociability (Cyr et al., 2007). If photographs enhance social presence and bring the virtual interaction closer to a face-to-face interaction, it is plausible that photographs of female and male virtual characters on retail websites will enhance consumers' feeling or sense of warmth and sociability in a similar way. Cyr et al. (2007) stated that non-verbal cues (signals that are not included in language expressions) to adorn the virtual character regarding gender, age or status makes the communication between the virtual character and the consumer more realistic.

In summary, the presence of a virtual character can enhance the feeling of social presence. A virtual character can have different functions like an identification figure, personal shopping assistant, as a website guide or as a conversation partner (Holzwarth et al., 2006). The purpose of a virtual character is to anthropomorphize the interaction between the vendor/organization and the consumer and make the consumers' shopping experience more interpersonal (Holzwarth et al.,

2006). Besides that, the human sales agent offline influences consumers' attitude and satisfaction toward the human sales agent. If virtual characters can make the communication between the consumer and the website of an organization more personal, they should influence the purchase process in a similar way as human sales agents in offline situations do. Considering that the perceived fit will influence consumers' satisfaction with the virtual character the following research question can be stated:

RQ1: To what extent will the fit between the gender of the virtual character and the product gender influence consumers' satisfaction with the virtual character?

Klantenservice



Figure 1. Tess from Ziggo



Figure 2. Sanne from Wehkamp



Figure 3. Nienke from Nationale Nederlanden



2.3 Credibility of the message

Organizations enhance social presence by integrating virtual characters to their websites. Virtual characters are an essential part of the content of organizations' websites (Vinayagamoorthy et al., 2006). The effectiveness of virtual characters depends on different factors like the trustworthiness of the virtual character and the credibility of the virtual characters' message. Research has shown that the expertise or credibility of the message of the virtual character has a strong impact on persuasion and trustworthiness at higher levels of involvement (Holzwarth et al., 2006; Wang et al., 2007). These studies indicate that incorporating virtual characters with a positive and persuasive conversational style increase the perceived credibility of the virtual characters' message (Vinayagamoorthy et al., 2006). In the offline shopping environment the credibility of the message of the vendor is able to influence consumers' attitude, feelings and actual buying behavior. Consumers are more likely to be influenced by a person who can be trusted, especially in the case when the involvement is high consumers prefer expert advice (Tan, 1999). The trustworthiness of the virtual character influences the credibility of the message of that virtual character and is likely to positively affect perceptions of the associated organization, especially when the virtual character behave in a manner befitting the organizational appearance (Holzwarth et al., 2006; Vinayagamoorthy et al., 2006). Considering that consumers' perceived fit influences the credibility of the virtual characters' message, the second research question can be stated as followed:

RQ2: To what extent will the fit between the gender of the virtual character and perceived product gender influence the credibility of the virtual characters' message positively?

2.4 Trustworthiness of virtual characters

Social presence is important in building trust offline, but also in building trust online. The object of online trust is the Internet or the website (Bart, Shankar, Sultan & Urban, 2005). Online trust consists of the perceptions of the consumer of how the website would deliver on expectations, how much confidence the website commands, and how believable and credible the information on the website is (Bart et al., 2005). Thus, in the online context, features of the organizations' website interface influence consumers' attitude and experience, because computer-mediated communication usually lacks social cues typically found in face-to-face communication (Keeling, McGoldrick & Beatty, 2010). The integration of social cues may induce the perception of employee presence and thus enhance consumers' trust. Especially for high-involvement tasks and buying processes, interpersonal communication and trust formation is more important than for low-involvement product categories. In the literature, price is probably the most used indicator of involvement, because the risk of a mispurchase is higher when the price of the product is high

(Laurent & Kapferer, 1985). Consumers are more likely to be involved with these products. Thus, high-involvement products entail greater financial risk than low-involvement products and a longer buying process (Bart et al., 2005). Consumers who are involved perform a number of behaviors like active search and information processing and extensive choice and brand evaluations (Laurent & Kaferer, 1985; Richins & Bloch, 1986).

In the literature there is no universally accepted definition of trust. Researchers have difficulty in defining what exactly trust is because there are multiple definitions of trust (Grabner-Kraeuter, 2002; Mayer, Davis & Schoorman, 1995; McKnight, Choudhury & Kacmar, 2002; Wang & Emurian, 2005). There are two reasons for that. The first reason, according to Wang & Emurian (2005), is that trust is an abstract concept and is often taken together with related concepts such as credibility, reliability, or confidence. Second, trust is a multi-faceted concept and has been studied in many disciplines (Wang & Emurian, 2005). There is an agreement across disciplines that trust only exists in uncertain and risky situations (Corritore et al., 2003; De Vries, 2006; Grabner-Kraeuter, 2002; Mayer et al., 1995). Especially in the online environment trust is salient in reducing risk and insecurity because consumers experience online shopping to be of higher risk than offline shopping (Corritore et al., 2003; Tan, 1999). The definition of trust incorporates cognitive, emotional, and behavioral dimensions (Wang & Emurian, 2005). In this research, the following well-accepted definition of trust is adopted: 'trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another' (Bart et al., 2005, p. 134).

The lack of trust in the online environment constitutes a situation of incomplete information, consequently greater uncertainty and risk for consumers (Wang & Emurian, 2005). Many online interactions are still text only and it is becoming increasingly common for organizations behind websites to include virtual characters to represent them and improve interaction with consumers (Nowak & Rauh, 2006). Virtual characters can increase the reciprocity and effectiveness of the website through the experience of a more conversational and sociable interaction between the organization and consumer (Fiedler et al., 2011; Holzwarth et al., 2006). Especially, the use of virtual characters filling the role of human sales agents or assistants could enhance consumers' feeling of trust in that organization. The quality of the interaction moderates consumers' trust in organization (Keeling et al., 2010). Therefore, the third research question can be stated as followed:

RQ3: To what extent will the fit between the gender of the virtual character and the product gender influence consumers' trust in the retailer positively?

In the online organizational setting there are always two parties involved: a trusting party (trustor, mostly the consumer) and a party to be trusted (trustee, mostly an organization or salesperson) (Mayer et al., 1995). The characteristics of the trustor and the trustee are important in affecting trust. Chen & Dhillon (2003) suggest that trust is a behavioral intention and is regarded as a strong belief in the fact that the other can be relied upon, is straightforward, benevolent, and honest. Some people are more likely to trust than others and people differ in their propensity to trust (Mayer et al., 1995). Propensity refers to the general willingness to trust others (Mayer et al., 1995). The propensity to trust is dependent on the experiences, cultural backgrounds and personalities of people (Mayer et al., 1995).

The degree to which the trustor, mostly the consumer, trusts the vendor is dependent on its characteristics. The characteristics and actions of the trustee will lead that person to be more or less trusted. There are criteria that determine the trustworthiness of a trustee; competence/ability, benevolence and integrity (Mayer et al. 1995; Wang & Benbasat, 2005). Ability or competence is described as 'that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain' (Mayer et al., 1995, p. 717). Trust is domain specific because the trustee may be highly competent in some area and less in another area. For example, the competence of a virtual character means that the customer believes that the virtual character has the ability, skills, and expertise to have influence within some specific domain (Wang & Benbasat, 2005). Benevolence is described as the degree to which a trustee is believed to want to do good to the trusting party. Wang and Benbasat (2005) suggest that the benevolence of a virtual character means that the customer believes that the virtual character cares about him or her and acts in the interests of the customer. The way people perceive benevolence is important in the assessment of trustworthiness, because it is the perception of a positive image or orientation of the trustee towards the trustor (Mayer et al., 1995). The last and final factor is integrity. Integrity refers to the trustee's honesty and in his or her ability to keep promises (McKnight et al., 2002; Wang & Benbasat, 2005). The integrity of the virtual character means that the customer believes that the virtual character is honest and keeps his or her promises.

An important question would be whether a human sales person (physical presence) can be substituted for a virtual character (virtual presence). Researchers suggest that online transactions are only based on the three characteristics (ability/competence, benevolence and integrity) when there is virtual presence, for example a virtual character (De Vries, 2006; Mayer et al., 1995; McKnight et al., 2002). The formation of trust depends not only on the presence or absence of an image/photograph of a virtual character but also on the characteristics made to the virtual character. If consumers do trust the virtual character, they are likely to accept their advice and

recommendations (Wang & Benbasat, 2005). Virtual characters will be judged on their features (e.g. the quality of the advice or information) and these characteristics (in terms of competence, benevolence and integrity) are likely to increase the trustworthiness of the virtual character (De Vries, 2006). Considering that consumers' perceived fit influences the trustworthiness of the virtual character, the fourth research questions can be stated as followed:

RQ4a: To what extent will the fit between the gender of the virtual character and the product gender influence consumers perception of competence of the virtual character?

RQ4b: To what extent will the fit between the gender of the virtual character and the product gender influence consumers perception of integrity of the virtual character?

RQ4c: To what extent will the fit between the gender of the virtual character and the product gender influence consumers perception of benevolence of the virtual character?

To summarize and to come up with the final research question, the presence of virtual characters can enhance the feeling of social presence and build trust in the online context (De Vries, 2006). Holzwarth et al. (2006) suggest that in offline situations human sales agents increase attitude toward the retailer, enhance attitudes towards the product(s), and increase consumers' willingness to buy. If virtual characters can make the communication between the consumer and the website of an organization more social, trustworthy and personal, they should influence the purchase process in a similar way as human sales agents in offline situations do. Based on the literature, the final research question can be stated as followed:

RQ5: To what extent will the fit between the gender of the virtual character and the product gender influence consumers' willingness to buy from the online shop?

2.5 Conceptual research model

The five research questions are visualized in the conceptual research model (Figure 4). To facilitate an investigation of how to better understand consumers Web experiences and to be able to answer the research questions stated in the previous section, the following conceptual research model was developed. The conceptual research model should give insight into the influence of gender of virtual characters with different product genders on the dependent variables. In this research it is expected that consumers' perceived fit between gender of virtual character and the product gender will influence the dependent variables satisfaction with the virtual character, credibility of the virtual characters' message, trustworthiness of the virtual character (competence, integrity and benevolence), trust in the retailer and intention to buy. An experimental study was conducted to test the effects of perceived fit on the dependent variables.



Figure 4. Conceptual research model

3. Method

3.1 Pretest

The first step was to determine the sex-types perceptions of twenty products for the main study via a pretest. The purpose of the pre-test was to sort products into three groups: masculine products, feminine products and neutral products (perceived product gender).

Procedure. The 30 respondents rated a list of 20 products ranging from masculine, neutral to feminine. Respondents were asked to indicate how masculine, neutral or feminine these products are on a seven-point Likert scale (1 = extremely masculine, to 7 = extremely feminine). The mean ratings were examined to identify three products that would meet the criteria that the (high involvement) product is masculine, feminine and neutral. All products were high involvement products because consumers' buying experiences with high involvement products tend to be longer and more social interactive than buying experiences with low involvement products. For high-involvement products interpersonal communication and trust formation are more important than for low-involvement product categories. The products in the pretest were selected on price because price is the most used indicator of involvement. The risk of a wrong purchase is higher when the price of the product is high (Laurent & Kapferer, 1985). Consumers were more likely to be involved with these products. This experiment made sure every question was filled in by the respondent before rating the next product, this resulted in no missing values.

Participants. A total of 30 respondents, between the age of 18 and 30, participated in the pretest (M = 24.2, SD = 2.56). A recent study reported that people between 16 and 30 years old spend a lot of time on the Internet and often make online purchases (Lester, Forman & Loyd, 2005). Participants were recruited via the researchers' network on Facebook to make sure they are using the Internet.

Results. The results of this pre-test indicated that three products were considered as typical 'masculine', 'feminine' or 'neutral'. To check if the questionnaire was completed correctly by the participants a typical feminine product 'wedding dress' was used to check if participants answered the questionnaire seriously. Participants who rated 'wedding dress' as neutral or as masculine were excluded from the sample. There was chosen for the product wedding dress because everybody knows that a wedding dress is a typical feminine product. The results of the pretest revealed that a motorcycle (high in price) was considered as an extremely masculine product (M = 1.53; SD = 0.68) by the participants. The most feminine product selected by the sample group was a solarium (M = 6.50, SD = 0.51). A laptop was selected as a neutral product (M = 3.83, S = 0.59). The other products (such

as washing machine, television) were not rated as extremely masculine or feminine neither as neutral.

	Μ	SD	Ν
Masculine: motor	1.53	0.51	20
Feminine: solarium	6.50	0.68	20
Neutral: laptop	3.83	0.59	20

Table 1. Means and standards deviations of the products

Note: The products were measures on a seven-point scale, ranging from 1 = extremely masculine to 7 = extremely feminine.

3.2 Main study

Design. A 2 (gender of virtual character: male vs. female) X 3 (product gender: masculine, feminine vs. neutral) between-subjects factorial design was employed. The hypotheses and research questions in this research were tested by means of an online experimental research setting, consisting of a fictive retail website of the organization Tunak and an online questionnaire consisting of different measurement scales. In this study, a fictitious organization was selected to eliminate the effects of prior experience with that organization.

The fictive organization, Tunak, was a product retailer with high involvement (high price) products. The key manipulation was the gender of the virtual character available to assist the participant with the purchase. Understanding why gender of virtual characters in relation with the perceived product gender had an influence on attitudes and behaviors of consumers may provide insight for organizations into differences in trust attitudes and buying intentions. Six conditions were created to vary the product gender (masculine, feminine or neutral) and vary the gender of the virtual character (male or female). All six conditions used the same framed-paged design and were created for ease of navigation and legibility. Besides that, all participants were given the same questionnaire.

Gender of the virtual character. Half of the participants were presented with a male virtual character, named Jan de Graaf (Figure 5), while the other half of the participants were presented with a female virtual character named Karin de Graaf (Figure 6). Participants saw a photograph of Karin de Graaf or Jan de Graaf on the website of Tunak. Photographs were used to enhance social presence and consumers' feeling or sense of warmth and sociability. The virtual characters were designed to look like experts (appear older and they wore eyeglasses) to enhance the credibility of the message, because research showed that the credibility of the message of the virtual character

had a greater impact on persuasion and trustworthiness at higher levels of involvement (Holzwarth et al., 2006).

Besides that, the photographs of the male and female virtual character share a number of similarities: appearing older, smiling, wearing glasses and formal clothes and having the same posture to ensure some levels of consistency. The virtual characters introduced themselves with the line "Welcome to Tunak. My name is Karin de Graaf/Jan de Graaf. I'm an expert in the field of motorcycles (solariums or laptops). I can certainly give you expert advice and information about our products and services. Do you have any questions or are you looking for a specific motorcycle (solarium or laptop) you can ask me". The virtual character then began the consultation by asking the participant "What is the type of motorcycle (solarium or laptop) you are looking for? If you are looking for a motorcycle (solarium or laptop) with specific requirements you can type the requirements in the below text bar". The virtual character was presented on the remaining screens to assist the participant in the purchase. Thus, the message contents were kept constant in all six conditions, stories were told in a slightly different manner suiting the scenarios.



Figure 5. Virtual character Jan de Graaf



Figure 6. Virtual character Karin de Graaf

Product gender. Participants were presented with either an extremely masculine product, namely a motor; an extremely feminine product, a solarium; or neutral product, a laptop. The results of the pretest revealed that these products were selected as extremely masculine (motor), extremely feminine (solarium) and neutral (laptop) by participants. All products were high involvement products.

Procedure. Participants were personally recruited via Facebook messages to make sure they are using the Internet. First, the participants were asked to read a purchase scenario before starting

the experiment. Three different purchase scenarios were created. The purchase scenario was an opportunity to purchase a motorcycle, or solarium, or laptop from the organization Tunak. A part of the scenario was: you are looking for a new motorcycle. You have arrived on the website of Tunak. You don't know yet which motorcycle you want, but there are a number of requirements you find important when buying a new motorcycle: user-friendliness and the safety. You also find the design of the motorcycle very important. You are looking for an orange-colored design (Appendix B).

After participants had clicked on the link to the experiment, they arrived at a starting page. The participants were randomly assigned to one of the six conditions. The participants were greeted by one of the virtual characters (Jan de Graaf or Karin de Graaf), received the message consistent with their condition, and they were taken to the motorcycle/solarium/laptop-shopping experience. During the experiment participants were asked to fill in important requirements for their purchase.

The requirements were stated in the scenario suiting the product (e.g. user-friendliness and safety). The virtual character discussed the decision of the participant and provided a recommendation for each decision. In all conditions, the virtual character used the same text and made the same recommendations. A control question was used to ensure that participants had read the scenario thoroughly and viewed all of the pages. Only the data from the participants who have answered the control question correctly were included in the analysis.

Participants then had to complete a web-based questionnaire designed using ThesisTools (<u>www.thesistools.com</u>). Participants were automatically sent to the questionnaire. Participants responded to a series of dependent and independent items to test the hypotheses and research questions. All items were measured with five-point Likert scales with 1 representing 'completely disagree' and 5 'completely agree'. This experiment made sure every question was filled in by the participant before answering the succeeding question, resulting in no missing values. Moreover, it was not possible to return to the previous page during the experiment. The anonymity of the participants was safeguarded.

Participants. Two hundred and thirty respondents participated in the study. However, their answers to the control question (did your final choice depends on the design of the product?) revealed that only 183 questionnaires were usable because 20 participants did not read the scenario correctly. Thus, the sample consisted of 183 participants, 94 male and 89 female. The participants all had a Dutch nationality, with their residences spread over the whole country. The average age was M = 24.36 (SD = 3.56). In the call to perform the experiment and fill out the questionnaire, only people between 18 and 30 years old were asked to participate. A recent study reported that these group spending a lot of time on the Internet and makes online purchases (Lester, Forman & Loyd, 2005).

Participants were randomly assigned to one of the six conditions. Most of the participants were predominantly highly educated (i.e., 45.9% HBO, 30.1% WO), which is much higher than the Dutch average (i.e., 34% of the Dutch labor force, Centraal Bureau voor de Statistiek CBS, 2012). Almost all participants had 5 to 10 years (29.5%) or more than 10 years (69.9%) experience with the Internet.

	n	%		n	%
Gender			Level of education		
Male	94	51.4	Basisonderwijs	-	-
Female	89	48.6	Lager beroepsonderwijs	-	-
			VMBO	3	1.6
			Mavo, MULO	1	0.5
			MBO	29	15.8
			Havo	11	6.0
			НВО	84	45.9
			WO	55	30.2
			None		
Age			Internet experience		
18 – 21	34	18.6	0 – 1 year	-	-
22 – 25	91	49.8	1 – 5 years	1	0.5
26 - 30	58	31.6	5 – 10 years	54	29.5
	20	01.0	10 years and longer	170	<u>-0.0</u>
			TO YEARS AND IONGEN	120	09.9

Table 2. Demographic characteristics of the sample

Pilot. Before sending the experiment link to people, a pilot was conducted among 12 participants in order to check if they understood the experiment. The pilot aimed at checking whether or not participants understood the scenario used for the experiment, and if the questions in the questionnaire were understandable. A few design and message adjustments were made based on the comments provided by the pilot test participants. The message of the virtual character was positioned on a more prominent place of the pages and a few questions in the questionnaire were simplified, so that all participants, regardless of age or education level, could understand the questions.

Measures. Most of the dependent and independent variables were adopted from other studies. The variables were rated on a five-point Likert scale, ranging from 1 = completely disagree to 5 = completely agree.

Perceived fit gender of virtual character and product gender. For perceived fit between gender of the virtual character and product gender new items were developed to measure the

construct 'perceived fit'. Five items 'the virtual character represents the product in the right way', 'the gender of the virtual character fits the product', 'the gender of the virtual character does not matter to me for this product', 'I would rather have had help from a male/female virtual character for this product' and 'In my opinion, the virtual character reflects the product in the right way' were developed. Four of the five items were relevant for this study. After deleting the item 'the gender of the virtual character does not matter to me with this type of product' the scale proved reliable (α = .78).

Satisfaction with the virtual character. Items to measure participants' satisfaction with the virtual character were taken from several previous studies (Holzwarth, Janiszweski & Neumann, 2006; Walsh, Hennig-Thurau, Sassenberg & Bornemann, 2010). Five items were used to measure satisfaction with the virtual character. Example items were 'the virtual character fulfills my needs' and 'my experiences with the virtual character are excellent'. The Cronbach's alpha coefficient was 0.91.

Credibility of the message. Credibility of the message was measured by three items. Credibility of the message was measured with three commonly identified items oriented towards the content of the information given by the virtual character: believability, factualness and accuracy (α = .77). The items were developed by Eastin (2001).

Trustworthiness of the virtual character. The trustworthiness of the virtual character was measured using three-common trust related Internet behaviors: competence (how well the virtual character did its job or how knowledgeable the virtual character was), integrity (perceptions of the honesty, truthfulness and sincerity of the virtual character) and benevolence (perceptions of helpfulness, being genuinely of the virtual character). Existing items were adopted from the scales of McKnight, Choudhury, and Kacmar (2002). Competence was assessed using four items ($\alpha = .89$), integrity was measured using three items ($\alpha = .86$) and benevolence was measured using three items ($\alpha = .76$).

Trust in the retailer. The variable trust in the retailer was measured with five items. Items were developed by Cyr, Hassanein, Head and Ivanov (2007) to measure participants' perceptions of trust in the retailer. Example items were 'I can trust Tunak' and 'I feel Tunak would provide me with good advice'. The Cronbach's alpha coefficient in the current study was 0.92.

Intention to buy. Intention to buy was measured by three items. Items were developed by Holzwarth, Janiszweski and Neumann (2006). An example item was 'I can imagine buying the product from Tunak'. The Cronbach's alpha coefficient in the current study was 0.80.

Demographic variables. The following background variables were included: gender, age, highest level of education and years of Internet experience.

Constructs	ltems	Original α	Removed items	Resulting α
Perceived fit	5	0.59	Item 5	0.78
Satisfaction	5	0.91		0.91
Credibility of the message	3	0.77		0.77
Trustworthiness				
Competence	4	0.89		0.89
Integrity	3	0.86		0.86
Benevolence	3	0.76		0.76
Trust in the retailer	5	0.92		0.92
Intention to buy	3	0.80		0.80

Table 3. Cronbach's Alpha	of the constructs
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4. Results

A multivariate analysis of variance (MANOVA) was performed. The two independent variables were gender of the virtual character and product gender. A significant main effect was found for gender of the virtual character (F(8, 183) = 3.45, p = 0.001). Also the interaction effect between the gender of the virtual character and the product gender was significant (F(16, 183) = 7.36, p < 0.001). The results are shown in Table 4.

	Wilks'λ	F	df	Significance	ηρ²
Gender of the virtual character	0.86	3.45	8	0.001	0.14
Product gender	0.89	1.29	16	0.19	0.57
Gender virtual character * Product gender	0.55	7.36	16	< 0.001	0.26

Table 4. Multivariate test results

The multivariate analysis of variance showed that there was a significant main effect for gender of the virtual character and an interaction effect between gender of the virtual character and product gender. Six dependent variables were used: perceived fit, satisfaction with the virtual character, credibility of the message, trustworthiness of the virtual character (competence, integrity and benevolence), trust in the retailer and intention to buy. Further analysis, using Analysis of Variances, were performed to give more insight into the main and interaction effects for each of six dependent variables. The results of the Analysis of variances are shown in Table 5.

Table 5. Between-subjects effects per dependent variable

	F	df	Significance
Perceived fit			
Gender virtual character	20.18	1	< 0.001
Product gender	4.67	2	0.01
Gender virtual character * Product gender	46.44	2	< 0.001
Satisfaction with virtual character			
Gender virtual character * Product gender	13.04	2	< 0.001
Credibility of the message			
Gender virtual character * Product gender	13.38	2	< 0.001
Trustworthiness: competence			
Gender virtual character* Product gender	21.52	2	< 0.001
Trustworthiness: integrity			
Gender virtual character * Product gender	15.47	2	< 0.001
Trustworthiness: benevolence			

Gender virtual character * Product gender	22.22	2	< 0.001
Trust in the retailer			
Gender virtual character * Product gender	22.04	2	< 0.001
Intention to buy			
Gender character * Product gender	17.83	2	< 0.001

4.1 Main effects

Perceived fit. Analysis of Variance indicated that there were two significant main effects for gender of the virtual character (F(1, 183) = 20.18, p < 0.001) and perceived product gender (F(2, 183) = 4.67, p = 0.01) on perceived fit. The results showed that there was a difference between the male and female virtual character for perceived fit. The perceived fit score turned out to be higher with the male virtual character (M = 3.46, SD = 0.93) than with the female virtual character (M = 2.96, SD = 0.95). The main effect for perceived product gender showed that participants in the neutral condition perceived a higher fit (M = 3.40, SD = 0.69) than participants in the highly feminine condition (M = 3.24, SD = 0.91) or highly masculine condition (M = 3.02, SD = 1.19). Post-hoc analysis showed that only the difference between the neutral condition and highly masculine condition was significant at the 0.05 level.

However, these results may occurred due to the significant interaction effect between gender of virtual character and product gender on perceived fit (F(2, 183) = 46.44, p < 0,001). A *simple main effect test* turned out that there was a statistically significant difference between the mean scores on perceived fit between the male and the female virtual character in the highly masculine condition (F(1, 177) = 95.13, p < 0.001) and in the highly feminine condition (F(1, 177) = 14.62, p < 0.001). The perceived fit score turned out to be significantly higher when the product gender matches the gender of the virtual character (masculine product – male virtual character, feminine product – female virtual character). For the perceived fit of the product perceived as masculine was the male virtual character significantly higher rated (M = 3.92, SD = 0.75) than the female virtual character (M = 2.05, SD = 0.72). Participants in the feminine condition perceived a higher fit with the female virtual character (M = 3.62, SD = 0.68) than with the male virtual character (M = 2.89, SD = 0.98). As H1a and H1b predicted, the perceived fit was significantly higher rated when the gender of the virtual character was matching the product gender. For the perceived fit of the product perceived a male virtual character was matching the product gender. For the perceived fit of the product perceived fit of the virtual character was matching the product gender. For the perceived fit of the product perceived as neutral no significant difference was found between the male virtual character. H1c was not confirmed.

Satisfaction with the virtual character. Analysis of Variance was performed to investigate if satisfaction with the virtual character was influenced by the gender of the virtual character and the

perceived product gender. No significant main effects were found for gender of the virtual character and perceived product gender. A significant interaction effect between gender of the virtual character and the product gender on satisfaction with the virtual character has been found (F(2, 183) = 13.04, p < 0,001).

A simple main effect test showed that there was a statistically significant difference between satisfaction with the male and the female virtual character in the highly masculine condition (F(1, 177) = 17.90, p < 0.001) and in the neutral condition (F(1, 177) = 4.73, p = 0.03). Participants in the condition with a highly masculine product (motorcycle) were more satisfied with the male virtual character (M = 3.77, SD = 0.92) than with the female virtual character (M = 2.83, SD = 0.94). The participants in the neutral condition were significantly more satisfied with the female virtual character (M = 3.68, SD = 0.72) than with the male virtual character (M = 3.19, SD = 0.88). This finding is interesting because in the neutral condition there was no significant difference between participants' perceived fit with the male and female virtual character, but they were more satisfied with the female virtual character. No significant difference between the male and the female virtual character was found in the condition with a highly feminine product (solarium).

Credibility of the message. Analysis of Variance was performed to investigate if credibility of the virtual characters' message was influenced by the gender of the virtual character and by the perceived product gender. No significant main effects were found for gender of the virtual character and perceived product gender. A significant interaction effect between gender of the virtual character character and perceived product gender was found (F(2, 183) = 13.38, p < 0.001).

A simple main effect test turned out that there was a statistically significant difference between the mean scores on credibility of the male virtual characters' message and the credibility of the female virtual characters' message in the highly masculine condition (F(1, 177) = 21.69, p < 0.001) and in the highly feminine condition (F(1, 177) = 6.54, p = 0.01). The credibility of the male virtual characters' message (M = 3.66, SD = 0.83) was significantly higher rated than the credibility of the female virtual characters' message (M = 2.64, SD = 0.98) in the highly masculine condition. In the condition with the highly feminine product the credibility of the female virtual characters' message (M = 3.56, SD = 0.88) was significantly higher rated than the message of the male virtual character (M = 3.00, SD = 0.83). In the neutral condition results indicated that there was no significant difference in credibility of the male and female virtual characters' message.

Trustworthiness of the virtual character: competence. The competence of the virtual character was tested with Analysis of Variance. Results of the Analysis of Variance showed no significant main effects for gender of the virtual character and perceived product gender. The

interaction effect between gender of the virtual character and perceived product gender was statistically significant (F(2, 183) = 21.52, p < 0.001).

A simple main effect test revealed significant differences between the male and female virtual character in the condition with a highly masculine product (F(1, 177) = 29.97, p < 0.001) and in the condition with a highly feminine product (F(1, 177) = 12.77, p < 0.001). Participants in the highly masculine condition perceived the male virtual character as more competent (M = 3.89, SD = 0.89) than the female virtual character (M = 2.72, SD = 0.95). In the highly feminine condition participants rated the female virtual character as more competent (M = 3.80, SD = 0.71) than the male virtual character (M = 3.04, SD = 0.94). In the neutral condition there was no significant difference in competence between the male and female virtual character.

Trustworthiness of the virtual character: integrity. Analysis of Variance was performed to examine the effects of gender of the virtual character and perceived product gender on integrity of the virtual character. Results indicated that there were no significant main effects for gender of the virtual character and perceived product gender on the dependent variable integrity. A significant interaction effect between gender of the virtual character and perceived product gender has been found (F(2, 183) = 15.47, p < 0.001).

A simple main effect test showed that there was a statistically significant difference between the mean scores on the variable integrity in the highly masculine condition (F(1, 177) = 26.25, p < 0.001) and in the highly feminine condition (F(1, 177) = 5.30, p = 0.023). Participants rated the male virtual character (M = 3.80, SD = 0.92) as more integrity than the female virtual character (M = 2.74, SD = 0.86) in the highly masculine condition. In the condition with the highly feminine product was the integrity of the female virtual character (M = 3.60, SD = 0.81) higher rated than the integrity of the male virtual character (M = 3.13, SD = 0.85). In the neutral condition was no significant difference found between the integrity of the male and female virtual character.

Trustworthiness of the virtual character: benevolence. Analysis of Variance was performed to investigate if benevolence of the virtual character was influenced by the gender of the virtual character and by the perceived product gender. Results indicated that there were no significant main effects for gender of the virtual character and for perceived product gender. A significant interaction effect was found between gender of the virtual character and the perceived product gender (F(2, 183) = 22.22, p < 0.001).

A simple main effect test revealed that there were significant differences between the mean scores on benevolence in the highly masculine condition (F(1, 177) = 38.02, p < 0.001) and in the highly feminine condition (F(1, 177) = 6.55, p = 0.04). Participants perceived the male virtual

character (M = 3.71, SD = 0.96) as more benevolent in the highly masculine condition than the female virtual character (M = 2.08, SD = 0.83), and the female virtual character (M = 3.54, SD = 0.69) as more benevolent than the male virtual character (M = 3.05, SD = 0.74) in the highly feminine condition. Finally, the benevolence of the virtual character in the neutral condition did not significantly differ between the male and female virtual character.

Trust in the retailer. Analysis of Variance was conducted to examine the effects of gender of the virtual character and perceived product gender on trust in the retailer. No significant main effects were found for gender of the virtual character and perceived product gender. Results indicated a significant interaction effect between gender of the virtual character and perceived product gender on trust in the retailer (F(2, 183) = 22.04, p < 0.001).

A simple main effect test showed that there were significant differences between the mean scores on trust in the retailer in the highly masculine condition (F(1, 177) = 29.47, p < 0.001) and in the highly feminine condition (F(1, 177) = 14.38, p < 0.001). Participants who were helped by the male virtual character (M = 3.64, SD = 0.96) in the highly masculine condition rated the retailer as more trustworthy than participants who were helped by the female virtual character (2.58, SD = 0.83). In the condition with the highly feminine product, participants who were helped by the female virtual character rated the retailer as more trustworthy (M = 3.52, SD = 0.61) than participants who were helped by the male virtual character rated the retailer as more trustworthy (M = 3.52, SD = 0.61) than participants who were helped by the male virtual character (M = 2.78, SD = 0.74). In the neutral condition no significant difference was found.

Intention to buy. Analysis of Variance revealed no significant main effects for gender of the virtual character and perceived product gender. A significant interaction effect was found between gender of the virtual character and perceived product gender (F(2, 183) = 17.83, p < 0.001).

A simple main effect test revealed that there was a statistically significant difference between the mean scores on intention to buy in the highly masculine condition (F(1, 177) = 23.94, p < 0.001) and in the highly feminine condition (F(1, 177) = 11.33, p = 0.001). In the highly masculine condition, participants were more likely to buy the product when they were helped by the male virtual character (M = 3.07, SD = 1.12) than participants who were helped by the female virtual character (M = 1.98, SD = 0.72). In the highly feminine condition, participants were more likely to buy the product when they were helped by the female virtual character (M = 3.06, SD = 0.61) than participants who were helped by the male virtual character (M = 2.30, SD = 0.94). In the neutral condition no significant difference between the male and female virtual character was found.

Table 6. Means and standard deviations for each product gender

	Motor			Solarium			Laptop					
	Male (n =	32)	Female (n = 30)		Male (n :	Male (n = 32) Female (n = 30)		n = 30)	Male (n = 30)		Female (n = 29)	
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Perceived fit	3.92	0.74	2.05	0.71	2.89	0.98	3.62	0.67	3.58	0.72	3.22	0.64
Satisfaction virtual character	3.77	0.92	2.83	0.94	3.24	0.84	3.65	0.85	3.19	0.88	3.68	0.72
Credibility of the message	3.66	0.85	2.64	0.98	3.00	0.83	3.56	0.88	3.10	0.84	3.10	0.73
Trustworthiness virtual character												
Competence	3.89	0.89	2.72	0.95	3.04	0.94	3.80	0.71	3.30	0.85	3.48	0.60
Integrity	3.80	0.92	2.74	0.86	3.13	0.85	3.60	0.81	3.23	0.80	3.41	0.57
Benevolence	3.71	0.96	2.52	0.83	3.05	0.74	3.54	0.69	3.16	0.64	3.41	0.59
Trust in the retailer	3.64	0.96	2.58	0.83	2.78	0.74	3.52	0.61	3.19	0.76	3.33	0.63
Intention to buy	3.07	1.12	1.98	0.72	2.30	0.75	3.06	0.94	2.79	0.89	2.97	0.78

Note: The dependent variables were measured on a five-point scale, ranging from 1 = completely disagree to 5 = completely agree.

4.2 Constructs that lead to effects

To answer the hypotheses and research questions a regression analysis was performed to determine whether participants' perceived fit between the gender of the virtual character and the perceived product gender was a significant predictor of the dependent variables. Besides that, other associations between the variables were tested with linear regression.

Predictor (factor)	Dependent construct	t	β
Perceived fit	Satisfaction	9.03	0.56*
Perceived fit	Credibility of the message	7.28	0.48*
Perceived fit	Competence	8.45	0.53*
	Integrity	8.28	0.52*
	Benevolence	9.14	0.56*
Perceived fit	Trust in the retailer	8.23	0.52*
Perceived fit	Intention to buy	7.67	0.49*
Satisfaction	Credibility of the message	11.76	0.66*
Satisfaction	Competence	14.62	0.74*
	Integrity	12.21	0.67*
	Benevolence	10.97	0.63*
Satisfaction	Trust in the retailer	12.45	0.68*
Satisfaction	Intention to buy	9.58	0.58*
Credibility of the message	Competence	13.78	0.72*
	Integrity	10.97	0.63*
	Benevolence	10.20	0.60*
Credibility of the message	Trust in the retailer	11.75	0.66*
Credibility of the message	Intention to buy	9.95	0.59*
Competence	Trust in the retailer	15.98	0.77*
Integrity		17.00	0.78*
Benevolence		12.09	0.67*

Table 7. Linear regression of the constructs of the research model

Competence	Intention to buy	11.22	0.64*
Integrity		7.75	0.50*
Benevolence		8.02	0.51*
Trust in the retailer	Intention to buy	11.42	0.65*

Note: * < 0.001

Table 7 revealed that the outcomes of the variables were at large significant and well indicated by the regression model in this research. Participants who perceived a higher fit between the gender of the virtual character and the perceived product gender were more satisfied with the virtual character, perceived the message of the virtual character as more credible, perceived the virtual character and the retailer as more trustworthy and were more likely to buy the product. The outcomes were visualized in Figure 7.

Perceived fit – satisfaction. In order to answer research question 1, the regression model was tested. The results showed a significant effect (β = 0.56, t = 9.03, p < 0.001). Perceived fit was able to indicate satisfaction, which means that participants were more satisfied with the virtual character when they perceived a higher fit between the gender of the virtual character and the product gender.

Perceived fit – credibility of the message. Linear regression was used to specify the nature of the relation between perceived fit and credibility of the message. Perceived fit was significantly related to credibility of the message (β = 0.48, t = 7.28, p < 0.001). This explains research question 2, which means that participants rated the message of the virtual character as more credible when they perceived a higher fit between the gender of the virtual character and the product gender.

Perceived fit – trustworthiness. Table 7 revealed that the outcomes of the variables competence (β = 0.53, t = 8.45, p < 0.001), integrity (β = 0.52, t = 8.28, p < 0.001) and benevolence (β = 0.56, t = 9.14, p < 0.001) were at large significant and well indicated by the regression model in this research. Perceived fit was able to indicate the competence, integrity and benevolence of the virtual character. This explains research question 4a, b and c, which means that participants rated the virtual character as more competent, integrity and benevolent when they perceived a higher fit between the gender of the virtual character and the product gender.

Perceived fit – trust in the retailer. The results of the regression model showed that perceived fit could significantly indicated trust in the retailer ($\beta = 0.52$, t = 8.23, p < 0.001). This explains

research question 5, which means that participants rated the retailer as more trustworthy when they perceived a higher fit between the gender of the virtual character and the product gender.

Perceived fit – intention to buy. Linear regression revealed that intention to buy was at large significantly well indicated by perceived fit (β = 0.49, t = 7.67, p < 0.001). This explains research question 5, which means that participants were more likely to buy the product when they perceived a higher fit between the gender of the virtual character and the product gender.

Satisfaction – credibility of the message. The results of the linear regression revealed that credibility of the message was at large significantly well indicated by satisfaction with the virtual character (β = 0.66, t = 11.76, p < 0.001). The data showed that participants rated the message of the virtual character as more credible when they were more satisfied with the virtual character.

Satisfaction – trustworthiness. Table 7 revealed that the outcomes of the variables competence (β = 0.74, t = 14.62, p < 0.001), integrity (β = 0.67, t = 12.21, p < 0.001) and benevolence (β = 0.63, t = 10.97, p < 0.001) were at large significant and well indicated by the regression model in this research. Linear regression showed that satisfaction with the virtual character was significantly related to trustworthiness of the virtual character. This means that participants rated the virtual character as more competent, integrity and benevolent when they were more satisfied with the virtual character.

Satisfaction – trust in the retailer. Linear regression showed that trust in retailer was at large significantly well indicated by satisfaction with the virtual character (β = 0.68, t = 12.45, p < 0.001). This explains that participants rated the retailer as more trustworthy when they were more satisfied with the virtual character.

Satisfaction – intention to buy. Results of the linear regression showed that satisfaction with the virtual character was significantly related to intention to buy (β = 0.58, t = 9.58, p < 0.001). The data showed that participants were more likely to buy the product when they were more satisfied with the virtual character.

Credibility of the message – trustworthiness. Table 7 revealed that the outcomes of the variables competence (β = 0.72, t = 13.78, p < 0.001), integrity (β = 0.63, t = 10.97, p < 0.001) and benevolence (β = 0.60, t = 10.20, p < 0.001) were at large significant and well indicated by the regression model in this research. Credibility of the virtual characters' message was able to indicate the competence, integrity and benevolence of the virtual character. This means that participants rated the virtual character as more competent, integrity and benevolent when they perceived the message of the virtual character as more credible.

Credibility of the message – trust in the retailer. The results of the linear regression revealed that trust in the retailer was at large significantly well indicated by credibility of the virtual characters' message (β = 0.66, t = 11.75, p < 0.001). The data showed that participants rated the retailer as more trustworthy when they perceived the message of the virtual character as more credible.

Credibility of the message – intention to buy. Linear regression showed that intention to buy was at large significantly well indicated by credibility of the virtual characters' message (β = 0.59, t = 9.95, p < 0.001). This means that participants were more likely to buy the product when they perceived the message of the virtual character as more credible.

Trustworthiness – *trust in the retailer.* Table 7 revealed that trust in the retailer was at large significantly well indicated by the competence ($\beta = 0.77$, t = 15.98, p < 0.001), integrity ($\beta = 0.78$, t = 17.00, p < 0.001) and benevolence ($\beta = 0.67$, t = 12.09, p < 0.001) of the virtual character. This means that the trustworthiness of the virtual character was able to indicate trust in the retailer.

Trustworthiness – *intention to buy*. The results of the linear regression revealed that intention to buy was at large significantly well indicated by competence ($\beta = 0.64$, t = 11.22, p < 0.001), integrity ($\beta = 0.50$, t = 7.75, p < 0.001) and benevolence ($\beta = 0.51$, t = 8.02, p < 0.001) of the virtual character. This explains that the higher participants rated the trustworthiness of the virtual character, the higher their intention to buy.

Trust in the retailer – intention to buy. Table 7 revealed that the outcomes of the variable trust in the retailer were at large significant and well indicated by the regression model in this research (β = 0.65, t = 11.42, p < 0.001). This means that trust in the retailer was able to indicate intention to buy. Participants were more likely to buy the product when they perceived the retailer as more trustworthy.



Figure 7. Standardized regression coefficients of the constructs of the conceptual research model *Note:* + < 0.001

5. Discussion

5.1 Conclusion

The experimental website and questionnaire were conducted to answer the following research question: to what extent will perceived fit between gender of the virtual character (female vs. male) and product gender (feminine, masculine and neutral) on retail websites influence a) satisfaction with the virtual character b) credibility of the virtual characters' message c) trustworthiness of the virtual character, d) trustworthiness of the retailer, and, e) willingness to buy from the shop? This experimental research can contribute to the literature by providing an explanation of how consumers react on virtual characters with different gender in combination with different product gender on retail websites with high-involvement products. Subsequently, attention has been paid to whether people's perceived fit between the gender of the virtual character and the product gender will influence people's Web experiences. This study suggests that people's perceived fit is an important predictor of the Web experiences of people.

Results show that people's perceived fit between the gender of the virtual character and the product gender is an important predictor of their attitudes and behavior. The experimental study suggests that people perceive a fit when the gender of the virtual character matches the perceived gender of the product. As H1a and H1b predicted, people prefer a male virtual character when the product is perceived as masculine and a female virtual character if the product is perceived as feminine. The results confirmed previous research which shows that people, generally, assume that women know more about feminine topics or products and men know more about masculine topics or products (Nass & Moon, 2000). The findings also showed support for the research of Vinayagomoorthy et al. (2006) which suggests that people expect virtual characters to behave and communicate befitting its appearance. People have certain expectations of how men and women think, look like, and behave, also known as gender roles (Jung & Lee, 2006). In the physical bricks and mortar shops, interactions with inappropriate male and female vendors are often incongruent and difficult. A similar phenomenon was seen in the online environment, because people in incongruent conditions, e.g. male virtual character vs. female product, rated the virtual characters lower than people in congruent conditions, e.g. male virtual character vs. male product. This study shows that people's perceived fit can be an effective instrument of persuasion, but further research is necessary.

In case of a neutral product gender, thus if the product is neither perceived as masculine nor neutral, no significant difference between the male and the female virtual character has been found. Prior research suggested that men are more influential than women and, in general, the evaluations, advice or opinions of men tend to be received as more valid than evaluations of women (Eagly, 1983; Nass & Moon, 2000). This will not be confirmed in this study. The straightforward and task-oriented style of men is not preferred by people in the neutral condition.

Another important finding was the difference in satisfaction in the neutral condition between the male and female virtual character. The current findings indicate that people's perceived fit influences their satisfaction with the virtual character positively. People who perceived a higher fit between the gender of the virtual character and the gender of the product were more satisfied with the virtual character. A noteworthy finding is that people were more satisfied with the female virtual character in the neutral condition while people's perceived fit did not significantly differ between the male and female virtual character. Probably, this could be an explanation why the organizations, Ikea, Ziggo, Nationale Nederlanden and Wehkamp, integrated a female virtual character on their website. The social, cooperative and emotionally oriented communication style of woman leads to more satisfied customers when the product gender is perceived as neutral. A possible explanation is the nurturing and service-oriented nature of women (Sheehan, 1999). Women are expected to be more socio-emotional because women tend to build relationships (Eagly, 1983). These assumptions may lead into people feeling more comfortable with the female virtual character, than with the male version. These findings provide opportunities for future research.

The results also showed that in the neutral condition there were no significant differences in ratings on credibility of the message, trustworthiness of the virtual character (competence, integrity and benevolence), trust in the retailer, and willingness to buy from the shop between the male and female virtual character. People rated the male and the female virtual character as equally in the neutral condition. These findings are interesting because previous research suggests that the male stereotypic role is to be more persuasive and task-oriented than the female stereotypic role (Eagly, 1983; Nass & Moon, 2000; Sheehan, 1999). A possible explanation is that people are gender stereotyping, mainly when the products are perceived as highly masculine or highly feminine. People prefer automatically a female virtual character in the highly feminine condition and a male virtual character in the highly masculine condition, while the message contents were kept constant in both conditions. This may be due to the fact that the gender of the virtual character was revealed via a photograph of Jan de Graaf or Karin the Graaf. In these conditions people automatically, mostly unconsciously, apply the gender stereotypes to others in an online environment, in this case the virtual character. This finding confirms the statement from Walther et al. (2008) that if others in the online environment are not physically present, people judge others in the online environment based on their amount of personal information such as gender and age. However, there was no significant difference in the neutral condition between the male and female virtual character. This finding

provides opportunities for future research. Investigations on differences between male and female virtual characters can be expanded to different neutral products.

In conclusion, this study showed that some of the expected responses in human-human interactions can be induced by integrating a virtual character on retail websites. People's perceived fit between the gender of the virtual character and the gender of the product was a significant predictor of the ratings on the dependent variables. At higher levels of perceived fit within the condition, people were more positive about the virtual character. People who perceived a higher fit were more satisfied with the virtual character, perceived the message of the virtual character as more credible, perceived the virtual character and the retailer as more trustworthy and were more likely to buy the product. Besides that, people's ratings on other variables were predictors for their ratings on other dependent variables. For example, the higher people score on satisfaction with the virtual character, the higher their trustworthiness in the virtual character. In general, adding a virtual character that matches the perceived gender of the product on retail websites will increase consumers' attitude and buying behavior.

5.2 Practical implications

With the results of this study practical guidelines can be provided for retail websites who want to integrate a virtual character into their website. The results of this study showed that the integration of a virtual character to facilitate interactions with customers can enhance the effectiveness of retail websites. Since the majority of consumers between 18 and 30 actively shop online the main recommendation for online retailers (without virtual character) is therefore to consider the integration of a virtual character to pervade the communication between the consumer and the online vendor with high social presence. Keeling et al. (2010) suggests that online retailers can enhance the Web experiences of consumers by giving the consumer the feeling that there is some personal, sociable and sensitive human contact.

An important contribution to the literature is the finding that the perceived fit between the gender of the virtual character and the gender of the product is an important predictor of the Web experiences of consumers. People prefer a male virtual character when buying a masculine product and a female virtual character when buying a female virtual character. When the products of an organization are perceived as neutral, organizations have to consider which goals they want to pursue (e.g. satisfaction, credibility, trustworthiness) and subsequently which type of virtual character suites them the best. Further research is needed in order to confirm these conclusions and to generalize these findings to other contexts (e.g. online service environments or low-involvement products).

5.3 Theoretical implications

Until now, several researchers have associated virtual characters with positive outcomes (e.g. Cyr et al., 2006; Holzwarth et al., 2006; Qiu & Benbasat, 2005). Virtual characters can enhance the feeling of social presence and build trust in the online context (De Vries, 2006). However, the influence of genders on the virtual character in relation with the perceived gender of the product has not received attention until now. The results of this study introduce the concept of perceived fit. People's perceived fit is the extent to which people perceive a match between the gender of the virtual character and the gender of the product. While prior research only investigated the general influence of virtual character with different products and services and with different involvement levels, this study suggested that the gender of the virtual character in relation with the gender of the product has an important influence on consumers' online attitude and behavior. Future research is needed to confirm the findings of this study and provide a deeper understanding of the concept perceived fit with regard to different product genders and different involvement levels.

5.4 Limitations and implications for future research

Firstly, the products in this study were high-involvement products because interpersonal communication and trust formation are more important for high-involvement products than for low-involvement products (Laurent & Kapferer, 1985). In this research the choice for high-involvement products was successful, but it seems reasonable that online retailers with low-involvement products or services also want to use virtual characters on their website to facilitate interactions with their customers. Due to the specific research context of retail websites with high-involvement products it may not be possible to generalize the results to other websites such as online retailer with low-involvement products or a service-oriented online retailer. Besides that, other types of high-involvement products may reveal different results. Future research should focus on different levels of involvement and different product types.

Secondly, it is possible that due to the experimental setting of this research the significant results could be different in real terms. In this study a fictive organization was used to eliminate the effects of prior experience and knowledge of participants connecting to that organization. In practice, it is possible that a person's prior knowledge about a particular organization influences the effectiveness of a virtual character. Besides that, the behavior of participants may be different in the experimental setting than the actual/natural behavior on existing websites. Future research should investigate how prior knowledge about an organization affects experiences with virtual characters.

Thirdly, the sample size consisted of 183 participants whom completed a questionnaire for the experimental research. All participants in this study were between 18 and 30 years old and were mainly HBO or university students. This may be due to the fact that the network of the researcher was used. Therefore, the results cannot be generalized to all age groups and educational levels, such as preteens and high school students who are heavy users of the Internet. Therefore, future studies should investigate whether and how different age groups and educational groups react on male and female virtual characters according to different product gender.

Fourthly, there are many possibilities for the design of virtual characters in online environments in terms of function, graphic design, and technology (Holzwarth et al., 2006). In this research was chosen for photographs of a male and a female virtual character with the same similarities, such as; appearing older, smiling, wearing glasses and formal clothes, and having the same posture to ensure consistency. Other designs of virtual characters may lead to other results. Future research should focus on other possibilities for the designs of virtual characters, such as interactive virtual characters and animated virtual characters.

Finally, the adoption of virtual characters is expected to grow rapidly on retail websites and is regarded as one of the most exciting developments in the field of information technology (Wang et al., 2007). Probably, some of the results were obtained due to novelty effects, because the integration of virtual characters is a relatively new phenomenon. Future research should focus on prior experiences with virtual characters. The prior experiences of people with virtual characters may influence the attitudes and behavior of people.

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Appendix A: Scenarios

Scenario motor (highly masculine)

Fijn dat je mee wilt werken aan dit onderzoek. Je komt terecht op de website van Tunak. Op deze webpagina's zal Tunak, een motordealer, zijn producten en diensten introduceren. Tunak ontwerpt, fabriceert en verkoopt wereldwijd motorfietsen aan diverse consumenten en bedrijven. In dit onderzoek gaat het niet om de snelheid waarmee je het onderzoek aflegt, maar om de nauwkeurigheid. Neem je tijd en observeer de website van Tunak zorgvuldig.

Jij bent op zoek naar een nieuwe motor. Je bent terecht gekomen op de website van Tunak. Je hebt nog geen idee welk type motor je wilt kopen, maar er zijn een aantal voorwaarden die je belangrijk vindt bij de aankoop van een nieuwe motor: **de gebruiksvriendelijkheid en de veiligheid**. Ook het design van de motor is voor jou van groot belang. Je bent op zoek naar een **oranje uitvoering**.

Tijdens het aankoopproces wordt je geholpen door een virtuele online verkoper van Tunak. Een virtuele online verkoper wordt ook wel een virtueel karakter genoemd. Het is belangrijk dat je de tekst aandachtig doorleest die wordt gebruikt in het onderzoek. Het uiteindelijke aankoopproces is geen onderdeel meer van het onderzoek. Na het uitvoeren van het experiment wordt je doorverwezen naar de vragenlijst. Klik op de button en vul de vragenlijst in naar aanleiding van je bevindingen tijdens het experiment.

Start nu met het experiment.

##URL##

Scenario zonnebank (highly feminine)

Fijn dat je mee wilt werken aan dit onderzoek. Je komt terecht op de website van Tunak. Op deze webpagina's zal Tunak, een zonnebankspecialist, zijn producten en diensten introduceren. Tunak ontwerpt, fabriceert en verkoopt wereldwijd zonnebanken aan diverse consumenten en bedrijven. In dit onderzoek gaat het niet om de snelheid waarmee je het onderzoek aflegt, maar om de nauwkeurigheid. Neem je tijd en observeer de website van Tunak zorgvuldig.

Jij bent op zoek naar een nieuwe zonnebank. Je bent terecht gekomen op de website van Tunak. Je hebt nog geen idee welk type zonnebank je wilt kopen, maar er zijn een aantal voorwaarden die je belangrijk vindt bij de aankoop van een nieuwe zonnebank: **de gebruiksvriendelijkheid en de** veiligheid. Ook het design van de zonnebank is voor jou van groot belang. Je bent op zoek naar een groene uitvoering.

Tijdens het aankoopproces wordt je geholpen door een virtuele online verkoper van Tunak. Een virtuele online verkoper wordt ook wel een virtueel karakter genoemd. Het is belangrijk dat je de tekst aandachtig doorleest die wordt gebruikt in het onderzoek. Het uiteindelijke aankoopproces is geen onderdeel meer van het onderzoek. Na het uitvoeren van het experiment wordt je doorverwezen naar de vragenlijst. Klik op de button en vul de vragenlijst in naar aanleiding van je bevindingen tijdens het experiment.

Start nu met het experiment.

##URL##

Scenario laptop (neutral)

Fijn dat je mee wilt werken aan dit onderzoek. Je komt terecht op de website van Tunak. Op deze webpagina's zal Tunak, een laptopspecialist, zijn producten en diensten introduceren. Tunak ontwerpt, fabriceert en verkoopt wereldwijd laptops aan diverse consumenten en bedrijven. In dit onderzoek gaat het niet om de snelheid waarmee je het onderzoek aflegt, maar om de nauwkeurigheid. Neem je tijd en observeer de website van Tunak zorgvuldig.

Jij bent op zoek naar een nieuwe laptop. Je bent terecht gekomen op de website van Tunak. Je hebt nog geen idee welk type laptop je wilt kopen, maar er is één voorwaarde die je belangrijk vindt bij de aankoop van een nieuwe laptop: **de gebruiksvriendelijkheid**. Ook het design van de laptop is voor jou van groot belang. Je bent op zoek naar een **witte uitvoering**.

Tijdens het aankoopproces wordt je geholpen door een virtuele online verkoper van Tunak. Een virtuele online verkoper wordt ook wel een virtueel karakter genoemd. Het is belangrijk dat je de tekst aandachtig doorleest die wordt gebruikt in het onderzoek. Het uiteindelijke aankoopproces is geen onderdeel meer van het onderzoek. Na het uitvoeren van het experiment wordt je doorverwezen naar de vragenlijst. Klik op de button en vul de vragenlijst in naar aanleiding van je bevindingen tijdens het experiment.

Start nu met het experiment.

##URL##

Appendix B: Screenshots of study materials

The laptop condition is used as example in Appendix B. The solarium condition (highly feminine) and motor condition (highly masculine) had the same design and message contents. The only difference was the type of product.

Page 1



Algemene voorwaarden en policies | Over Tunak | Contact | Klantenservice

Home	Over Tunak	Producten	Contact	Mijn account
		Welkom Karin de het gebi bijbehore u deskuu informer en diens of ben t bepaald met uu Naar wa u op zoe mogelijk ik u de v in de tek	bij Tunak. Mijn naam is Graaf. Ik ben expert op ad van laptops en unde producten. Ik kan ndig advies geven en en over onze producten ten. Heeft u een vraag u op zoek naar een type laptop dan kunt u vragen terecht bij mij. It voor type laptop bent k? Om u zo goed van dienst te zijn vraag voorwaarden in te typen stbalk	
		Typ hier	uw tekst VERDER	

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Page 2



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Page 3

Over Tunak Producten Home Contact Mijn account U geeft aan dat uw beslissing U geeft aan dat uw beslissing wel afhankelijk is van het design. Het type laptop dat ik u kan adviseren op basis van uw geselecterde voorwaarden is Tunak type 2, de witte en uitstekende prijs/twalieit verhouding en staat bekend om zijn gebruiksvriendelijkheid. Ik hoog u hierme zo goed . hoop u hiermee zo goed mogelijk van dienst te zijn geweest. Het uiteindelijke aankoopproces behoort niet meer tot het onderzoek. Bedankt voor het meewerken aan dit onderzoek. Klik nu op de onderstaande button om de vragenlijst te openen. VRAGENLUST OPENEN Type 2

Algemene voorwaarden en policies I Over Tunak I Contact I Klantenservice

TUNAK Producten Home **Over Tunak** Contact Mijn account U geeft aan dat uw beslissing U geeft aan dat uw beslissing wei afhankelijk is van het design. Het type laptop dat ik u kan adviseren op basis van uw geselecteerde voorwaarden is Tunak type 2, de witte euitvoering. Dit type laptop heeft een uitstekende prijs/kwaliteit verhouding en staat bekend om zijn gebruiks vriendelijkheid. Ik hoop u hiermee zo goed mogelijk van dienst te zijn geweest. . Het uiteindelijke aankoopproces behoort niet meer tot het onderzoek. Bedankt voor het meewerken aan dit onderzoek. Klik nu op de onderstaande button om de vragenlijst te openen. VRAGENLUST OPENEN Type 2

Algemene voorwaarden en policies | Over Tunak | Contact | Klantenservice



Appendix C: Questionnaire

Beste deelnemer,

Fijn dat je mee wilt werken aan mijn onderzoek. Je hebt het experiment doorlopen en nu volgt er een vragenlijst. Deze vragenlijst bestaat uit een aantal algemene vragen en enkele stellingen. Het is erg belangrijk dat je de vragen goed doorleest en eerlijk invult. De resultaten van de vragenlijst worden anoniem verwerkt. De informatie wordt niet verder verspreid en alleen gebruikt voor mijn onderzoek. Er wordt vaak gevraagd naar jouw mening over een bepaald onderwerp. Kies dan voor het antwoord dat het beste bij jouw mening past.

Alvast heel erg bedankt voor je medewerking!

Met vriendelijke groet, Jip Hoppen Student Communication Studies Universiteit Twente

Wat is je geslacht:

0 Man

0 Vrouw

Wat is je leeftijd:

Wat is de hoogst genoten opleiding die je hebt gevolgd?

- 0 Basisonderwijs
- 0 Lager beroepsonderwijs
- 0 Voorbereidend middelbaar beroepsonderwijs (VMBO)
- 0 Middelbaar voortgezet onderwijs (Mavo, MULO)
- 0 Middelbaar beroepsonderwijs (MBO)
- 0 Hoger voortgezet onderwijs (Havo, VWO)
- 0 Hoger beroepsonderwijs (HBO)

- 0 Wetenschappelijk onderwijs (WO)
- 0 Geen

Hoeveel jaar ervaring heb je met het Internet?

- 0 0 1 jaar
- 0 1 5 jaar
- 0 5 10 jaar
- 0 10 jaar en langer

Onderstaande stellingen gaan over het virtuele karakter van Tunak die werd ingezet om je te helpen bij het aankoopproces. Je kunt, door het rondje aan te vinken, aangeven in hoeverre je het met de stellingen (on)eens bent. Je kunt maar één rondje aanvinken.

Het virtuele karakter represent	eert het type product op de	e juiste manier:
Helemaal mee oneens	00000	Helemaal mee eens
Als ik zou mogen kiezen had ik	liever hulp gehad van een n	nannelijk/vrouwelijk (afhankelijk van de
conditie) virtueel karakter bij d	it type product:	
Helemaal mee oneens	00000	Helemaal mee eens
Het geslacht van het virtuele ka	arakter past bij het type pro	oduct:
Helemaal mee oneens	00000	Helemaal mee eens
Naar mijn mening, is het virtue	le karakter een goede weer	spiegeling van het product:
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunal	< vervult mijn behoeften:	
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunal	< heeft mij niet teleurgestel	d:
Helemaal mee oneens	00000	Helemaal mee eens
Mijn ervaringen met het virtue	le karakter van Tunak zijn g	oed:
Helemaal mee oneens	00000	Helemaal mee eens

Het virtuele karakter van Tunak voorz	iet mij van de juiste informatie:	:
Helemaal mee oneens	00000	Helemaal mee eens
Over het algemeen ben ik zeer tevred	en over het virtuele karakter va	n Tunak die mij geholpen
heeft:		
Helemaal mee oneens	00000	Helemaal mee eens
De informatie gegeven door het virtue	ele karakter van Tunak is nauwk	ceurig:
Helemaal mee oneens	00000	Helemaal mee eens
De informatie gegeven door het virtue	ele karakter van Tunak is geloof	waardig:
Helemaal mee oneens	00000	Helemaal mee eens
De informatie gegeven door het virtue	ele karakter van Tunak is feitelij	k:
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak zal ha	indelen in mijn belang:	
Helemaal mee oneens	00000	Helemaal mee eens
Wanneer ik hulp nodig heb zal het vir	tuele karakter van Tunak zijn be	est doen mij zo goed mogelijk
te helpen:		
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak is geï	nteresseerd in mijn belang en n	iet in zijn eigen belang:
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak is eer	lijk in zijn handelen naar mij:	
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak is opr	echt:	
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak houd	t zich aan zijn beloftes:	
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tunak is con	npetent en effectief in het voor	zien van advies:
Helemaal mee oneens	00000	Helemaal mee eens

Het virtuele karakter van Tuna	k presenteert zijn rol als adv	iserende zeer goed:
Helemaal mee oneens	00000	Helemaal mee eens
Het virtuele karakter van Tuan	k is goed geïnformeerd:	
Helemaal mee oneens	00000	Helemaal mee eens
Over het algemeen is het virtu	ele karakter van Tunak gesch	ikt en bekwaam:
Helemaal mee oneens	00000	Helemaal mee eens
De laatste stellingen gaan over	r Tunak, de organisatie achte	r het product. Geef aan in hoeverre j
het (on)eens bent met de volg	ende stellingen naar aanleidi	ng van het experiment. Je kunt maar
één rondje aanvinken.		
Ik kan Tunak vertrouwen:		
Helemaal mee oneens	00000	Helemaal mee eens
Tunak is betrouwbaar in het v	erstrekken van juiste informa	tie over het product:
Helemaal mee oneens	00000	Helemaal mee eens
Tunak is eerlijk en oprecht:		
Helemaal mee oneens	00000	Helemaal mee eens
Ik heb het gevoel dat Tunak m	ij voorziet van deskundig en o	eerlijk advies:
Helemaal mee oneens	00000	Helemaal mee eens
Tunak heeft het beste met mij	voor:	
Helemaal mee oneens	00000	Helemaal mee eens
Ik zou overwegen om het prod	luct op de webpagina van Tu	nak te kopen:
Helemaal mee oneens	00000	Helemaal mee eens
lk zou het product op de webp	agina van Tunak wel eens wi	llen uitproberen:
Helemaal mee oneens	00000	Helemaal mee eens
Ik ga het product op de webpa	gina van Tunak beslist in hui	s halen:
Helemaal mee oneens	00000	Helemaal mee eens

Einde van het onderzoek. Bedankt voor je medewerking!