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Influence of anthropomorphism on consumer behavior

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Abstract. The following paper is a literature review on anthropomorphism in ICT and its influence on consumer behavior. Anthropomorphism is a congenital skill of a person to attribute human characteristics and features to non-human objects. According to the previous research works anthropomorphism influences on different factors of consumer behavior and human-technology interaction, such as, for example, consumer perception of the technology, trust towards it, loyalty to the company and period of usage of the technology, etc. In our study we aim to identify, summarize and classify both positive and negative effects of anthropomorphism on consumer behavior at different stages of consumer purchasing process: pre-purchasing, actual purchasing decision-making and post purchasing process.

Keywords: Anthropomorphism, consumer behavior, anthropomorphic features of the technologies, positive and negative effects of anthropomorphism, decision-making process, smart technologies, human-technology interaction.

1 Introduction

In the age of fast development of information and digital technologies we can hardly imagine our life without our favorite phone, which has all necessary and important information in it, gives us an opportunity to stay in touch with our friends via emails, social networks and phone calls, and saves some remarkable memories in its bowels. Thus, at some point we even may start to consider our phone as also one of our best friends. And when our phone is broken or doesn't work properly we may feel sorry and worry about it. And this feeling is not only related to disappointment of uncompleting some task, but also just human sadness that one of our friends is "sick". It is called anthropomorphism.

The study of anthropomorphism is relatively new for the IS discipline [1]. Anthropomorphism is a congenital skill of a person. [2] It is the attribution of human characteristics and features to non-human objects [3]. In the previous research works we found out such positive effects of anthropomorphism on a human-technology interaction as, for example, an increased human trust towards the technology [1] or more positive perception of the technology by the user [4]. The researchers and marketers broadly discuss pros of anthropomorphic technologies but what about cons? As anthropomorphism in ICT is a relatively new phenomenon, evoked by a fast

development of smart technologies with human-like features and abilities, there is no a comprehensive study of all possible positive and negative effects of the technologies with anthropomorphic features on the consumer as well as the correspondence between them. And as a human-technology interaction includes complicated cognitive and emotional processes, the evaluation of positive and negative effects of anthropomorphism can be a complicated complex procedure. [5] Thus, in the following literature review paper we aim to identify all mentioned in the previous research works positive and negative effects of anthropomorphism on a consumer behavior before, after and in the process of an actual purchasing decision-making and interaction with anthropomorphic technologies. In our study we will consider the influence of anthropomorphic technologies on consumer behavior directly during the straight-line process of an actual consumer purchasing behavior, described by Kotler [6], without consideration of individual features of consumers, their past social life, previous experience of interaction with the technologies or influence of marketing and advertising campaigns. According to the theory of consumer behavior each consumer goes through different stages of a straight-line purchasing process: pre-purchase behavior, direct purchasing decision-making process and post-purchasing stage [6].

So, we identified the following research questions for our study:

1. How does anthropomorphism influence on consumer behavior in the process of interaction with smart technologies with anthropomorphic features?

Sub-question:

- What is the influence of anthropomorphism on the different factors of consumer pre-purchasing behavior, actual purchasing decision-making and post-purchasing behavior?
 - What are positive effects of anthropomorphism on consumer behavior?
 - What are negative effects of anthropomorphism on consumer behavior?
2. What is the interconnection between the positive and negative effects of anthropomorphism on consumer behavior?

Thus, an intensive study of the previous research works on anthropomorphism allows us detect those of them that provide most clear and detailed discussion of only positive or only negative effects of anthropomorphic technologies on consumer behavior or both. Then, we summarized these different effects, corresponded them to each other, and find out that some of them are two opposite sides of the same influence. In the theoretical section we present some grounded theories on anthropomorphism and consumer behavior in order to provide some background information of the concepts. And in the third section of our study we more precisely concentrate on actual positive and negative effects of anthropomorphism on consumer behavior, mentioned and discussed in the previous research works. The results of our work are presented in the summary table in the last section, showing this correspondence between positive and negative sides of the same anthropomorphic influences, providing more detailed explanation of the results of our study.

We believe that our work on identification, summarizing and classification of both positive and negative effects of anthropomorphism is a necessary and important initial stage for further deeper research and understanding of the phenomenon of anthropomorphism in IS. An extensive study of both sides, negative and positive, of anthropomorphic influence on consumer' behavior and finding the answers to these

particular questions will allow us shed the light on such a new in IS phenomena as anthropomorphism, expand the knowledge about it for the future research works in order to get a deeper understanding of how to develop, manage and moderate these effects of anthropomorphism on consumer behavior and how much useful or harmful the anthropomorphic features of the technologies can be for a consumer in the process of human-technology interaction, which in its turn, will make an additional theoretical contribution into this field of the study.

2 Theoretical Background

2.1 Consumer Purchasing Behavior

In the past, the seller leaned to understand consumer needs and requirements, behavior and intentions directly in the process of daily trading. However, nowadays with the growth of the markets and the size of the companies, the seller loses this opportunity of a direct conversation with the customer in order to understand his/her behavior and needs [5]. Thus, yearly companies spend more and more money on studying their target audience, consumer behavior and their motivations and reasons of what, how, where and when to buy.[7] Especially in the area of high and smart technology this understanding of consumer behavior becomes even more essential and actual [4]. The company that can understand its consumer behavior at the different stages of the purchase, can get a real advantage among its competitors at the market [6]

According to the theory of consumer behavior each person goes through different stages of his/her purchasing process, including purchasing intention and evaluation of alternatives at the pre-purchase stage, direct purchasing decision-making process and post-purchasing stage, including the usage of the product, evaluation of the satisfaction and dissatisfaction of its use and making the post-usage decision about the further destiny of the product.[6] At each stage of this purchasing process there are different factors that influence more or less on the consumer behavior.

According to Kotler's theory one of the most influential psychological internal factors that stimulates consumer intention to buy is the motivation [6]. Each purchasing intention of the consumer is driven by the consumer motivation to satisfy some of his/her needs. According to commonly known Maslow's hierarchy of needs there are five levels of needs that an individual tries to satisfy at different stages of his/her life: physiological need, the need for safety, the need for love and belonging, the need for esteem and the need for self-realization. A need that has reached a sufficiently high level of intensity becomes a motive. When the need becomes the motive, it makes an individual to act in order to find the ways to satisfy this need. [7]Understanding of the consumer motivation to buy is essential for understanding the consumer purchasing behavior [6].

At the stage of purchasing decision –making process consumer evaluates the perceived properties and qualities of the technology [4]. Apart from generally considered qualities of the technology by the most of consumers, such as the quality

of performance, speed of work, ease of use, etc., there are also other secondary characteristics of the technology that are specific and individually important for each user, such for example a visual representation and design characteristics of the technology [1].

After buying the technology the consumer will be either satisfied by it or dissatisfied. What determines the level of post-purchasing consumer satisfaction or dissatisfaction with the good is the correspondence between the consumer expectations towards the perceived qualities and functions of the technology and the real level of its performance. The greater the gap between the expected and the actual operational properties and special features of the technology is, the higher the level of consumer dissatisfaction will be [4].

The post-usage behavior of a consumer towards the technology is directly influenced by the level of satisfaction or dissatisfaction. The satisfaction by the technology increases consumer level of loyalty and trust to the technology and the company and increases the probability of a consumer longer period of usage of the technology and increased unwillingness to replace the technology [4]. The post-usage intention of a consumer is important and useful for the producer as it reflects the consumer attitude towards the technology and the whole brand in general [6].

2.2 Overview of Anthropomorphism

Definition of anthropomorphism.

Anthropomorphism has different definitions. However, in a more general way it is the attribution of human characteristics and features to non-human objects [3]. Anthropomorphism is a congenital skill of a person [2]. We learn to identify the facial expressions of our parents and relatives since our childhood, what subsequently helps us to identify the same expressions of guilt, gladness, happiness or sadness of other people during all our life [21]. People tend to attribute human characteristics to non-human beings and things. [8] Anthropomorphism helps to better understand the problems of the surrounding world, including the existence and behavior of non-human agents. Some researchers suggest to consider anthropomorphism as an example of induction, which work in this same way- from getting to know some particular case to understanding of the entire picture [8]. If a human can get the understanding of his/her own behavior, features and preferences then via anthropomorphism it will be possible to understand the behavior and preferences of another person (or non-human objects) [19]. Thus, anthropomorphism helps to understand those phenomena that otherwise would be considered as unknown and uncertain due to the lack of information and understanding of it [19]. Anthropomorphism was called “logical attempt by humans to understand and predict the complicated world around them using existing knowledge about human agents” [8]

The study of anthropomorphism is relatively new for the IS discipline [1]. “Anthropomorphism is a topic mostly studied in sociology, computer science, and telecommunication [5]. Initially, anthropomorphism as a way of compensation of the

lack of social interaction was attributed mainly to animals and religious agents [11]. However, in our age of rapid and ubiquitous development and use of information technologies, another group of anthropomorphized objects has appeared—technologies. Social loneliness of some people led them to humanize those objects that surround them in everyday life and that are clearly nonhuman [11]. Loneliness can make people give the names, talk, take care and worry about their computers, phones and other technological items. “Situationally activated isolation or loneliness can increase anthropomorphism” [8] People who have the feeling of chronic loneliness are more likely to anthropomorphize nonhuman objects and do it faster than those who feel loneliness from time to time [11].

Despite the fact that anthropomorphism in IS is a relatively new topic, in other fields it has been studied for many decades and was suggested to be one of the most efficient and necessary tool for understanding non-human objects and agents already by Charles Darwin and Donald Hebb [9]. Others suggested that the use of anthropomorphism in human-robot interaction can move studies in human-computer interaction to a substantially new level. [4].

Motivators of anthropomorphism.

Each individual needs to have the feeling of social engagement and establish social connection with other members of his/her social group, what was discussed and proven by many previous works in human psychology, including the basics of Maslow’s hierarchy of human needs (the need of social belonging and esteem) [10]. Despite the fact that the level of social engagement is different for different nationalities, cultures and individuals (for example, introverts and extroverts), we all need it to some extent [6]. The lack of social interaction leads to the crucial negative impact of psychological well-being of an individual [11]. The lack of social interaction can even work at the neural level, thereby causing real physical pain of a human [11]. Thus, as this need of social interaction is basic and is given to us at birth, when feeling the lack of it, an individual tries to compensate it in other ways and imitate the social interaction with other non-human objects [12] “Social pain also leads people to actively search for effective ways to alleviate this pain, in much the same way as people seek to alleviate physical pain” [8] One of the ways of such social compensation is anthropomorphism [8].

A total loneliness is not the only factor that influences on evoking anthropomorphic relationship with non-human agents, but even people who have social interaction but consider it as insecure, can seek for a more security in anthropomorphic relations. This method of substitution of human social interaction with humanization of non-human objects can reduce social pain and a sense of disconnection from one’s own social group [6]. However, a negative effect of it is attributing only positive human characteristics to a non-human objects, but not negative as well. When feeling lonely, a human is more likely to attribute such positive human features to a non-human object as faithfulness and friendliness than rancor and falseness [8]. The feeling of loneliness make people attribute the supportive anthropomorphic traits to chosen non-human agents such as thoughtful, considerate, sympathetic, which provides a stronger feeling of social support an engagement [11].

Another type of anthropomorphic motivation is the need of an effective social interaction. The “Effectance” motivation is the motivation to interact effectively in

one's environment. [8] In case of "effectance motivation" anthropomorphism is strengthened by two main factors: the level of uncertainty of a non-human object and stimulus for its understanding and adoption. The desire to decrease the uncertainty of the surrounding world is based on the motivation of a human to more effectively interact with one's environment, which in its turn also evokes the desire to control this environment [8]. By attributing one's own features and behavioral characteristics to non-human agents, people satisfy this need to understand and control unknown objects and situations. When effectance motivation is high, anthropomorphism should increase. When effectance motivation is low, anthropomorphism should decrease. In the "effectance" motivation strong individual differences are observed [8].

3 Positive and Negative Influence of Anthropomorphism on consumer behavior

In the previous research works on anthropomorphism we identified different effects of anthropomorphism on different factors, influencing on consumer behavior both positive and negative effects. Positive effects of anthropomorphism on consumer behavior are principally considered in many research works, while negative effects are rarely mentioned. Thus, in the following section we tried to identify, summarize and classify both positive and negative effects of anthropomorphism on the consumer behavior at different stages of interacting with a smart technology with anthropomorphic features. An interesting observation in our process of studying of the previous works is that the same features of anthropomorphism can simultaneously evoke as positive, so negative effects on consumer behavior.

3.1 Influence of Anthropomorphism on Consumer Pre-Purchasing Behavior

In the previous researches it was proven that the level of emotional acceptance and perception of the technology have a direct influence on the customer's intention to buy it [7]. Anthropomorphism has a positive influence on the consumer perception of the technology [13]. If at the initial stage of consumer pre-purchasing behavior anthropomorphic technologies look, behave and interact with the user in a human natural way, the consumer will start to perceive the technology more as a human being but not as a good or technology. If the technology looks and behaves as an alive agent, its voice sounds similar to human one, the speed of the speech or movement of an anthropomorphic technology is same as human's and it is realistic enough in imitating human behavior and following the social norms of human communication, it will evoke a positive consumer reaction and increase his/her interest towards the technology already at the initial stage of his/her purchasing behavior [1], [2], [14].

This means that anthropomorphism can influence on consumer purchasing intention towards the technology. As anthropomorphism is an automated congenital human process, then it can be expected that technologies with anthropomorphic characteristics and human features will be perceived as more favorable and interesting among other non-anthropomorphic technologies presented at the market [15], [1]. According to the previous research works, two main characteristics of an anthropomorphic technology influence on increased consumer purchasing intention towards the technology: human-like visual design and behavior, imitating human one [1]. Visual design of the technology evokes individuals' anthropomorphism and impacts purchasing intention. [2]. Visual similarity of an anthropomorphic technology, the level of realism in imitating human behavior and following the social norms of human communication attract the consumer attention, motivating to choose this particular anthropomorphic technology. Thus, anthropomorphism has a potential of strongly and directly influence and even the ability to change the consumer purchasing intention at the pre-purchasing stage [1]. Additionally, anthropomorphism has a positive impact on consideration of overall desirable features of the product or technology, while decreasing the attention of the consumer on undesirable features of the product [8]. Anthropomorphic features of the technology make consumers to perceive the technology as a real person, which results in increased trust to the technology [1], [2], [16], [17].

3.2 Influence of Anthropomorphism on Consumer Purchasing Decision-Making Process

According to the previous research works, one of the most essential influence of anthropomorphism on consumer behavior during the purchasing decision-making process, is distraction of consumer attention from the product's quality [15] Quality of the technology, its performance, speed of work, efficiency are usually the key parameters considered by the customer in purchasing decision-making process. However, the anthropomorphic effect of humanized technologies distracts consumer attention from the product's quality and decreases customer's expectations towards the quality of the technology.

We differently perceive alive and not alive objects. And we tend to consider the qualitative characteristics of the technology such as speed of work, capacity and quality of performance only if we consider this object as unalive. However, when seeing the product or technology that looks like and behaves as an "alive" object, people start to evaluate it differently. They can't evaluate these "alive" agents with the same level of captiousness to their quality and performance functions as they do towards unalive objects. Anthropomorphic hereby changes the information that becomes important in consideration of the product: instead of the perceived quality and performance functions of the product, consumers start to consider other "more human" factors, that are usually more important in interpersonal social human relationships, such as for example, warmth or coldness, friendliness and trustworthiness of the technology. Consumers don't consider qualitative

characteristics of the human-like technology any more, as in real life we usually don't evaluate human beings according to their speed or capacity.

From one side, it would seem to be a real positive impact of anthropomorphism. The ability of humanized technology to shift attention of the consumer from the perceived quality of technology and its overall performance towards more designer characteristics of the technology, behavior or social aspects such as politeness, level of communication and friendliness gives a real advantage to the manufacturing company- there is no need to increase the quality of the performance of the technology, but only enhance its anthropomorphic features. However, other researchers state that many other products/technologies of a significantly higher quality but with lower level of anthropomorphic features lose their opportunity to catch customer's attention, as the consumer can avoid products with better quality and performance characteristics in favor of the product with more attractive humanized design or behavioral characteristics [15].

3.3 Influence of Anthropomorphism on Consumer Post-Purchasing Behavior

Influence of anthropomorphism on human-technology interaction.

As it was proven by the previous research works anthropomorphism has a strong positive influence on interaction and relationship between users and the anthropomorphic technology [1], [8]. Such anthropomorphic features of the technology as human face, smile, voice, movement or behavior prepossess customers to perceive the technology as a human being, friend, good advisor and make a positive influence on the process of human-technology interaction [16].

Interaction between a human and the technology strongly depends on how a person perceives this particular technology [18] When such technologies are used, for example, at the working place, the anthropomorphic features of the technologies change the consumer perception. The consumer can't perceive it any more as unalive object/technology for accomplishing the tasks (typing the text, searching for the information, replying to the requests), but start to perceive it as an imitating human-being agent, co-worker, with whom they accomplish the required tasks together. Such shift of consumer perception of the technology from simply an unalive technological equipment to an equal co-worker seems to be more favorable for the user, positively influences on user-technology interaction and makes the working process more efficient and pleasant for the user [19]

This process of the interaction between the user and the anthropomorphic technology positively influences on both sides: as stronger the anthropomorphic features of the technology is, so better consumer-technology interaction is and so longer this process lasts. But, as longer the interaction between the user and anthropomorphic technology is, so stronger the anthropomorphism becomes [5].

However, some researchers also show apprehension about some possible negative effect of anthropomorphism on social interaction of consumers According to some researchers; one of the justifications of so high attractiveness of anthropomorphic services/technologies among consumers is the lack of consumer social interaction and communication with other "alive" people. Thus, interaction with human-like anthropomorphic technology compensates to a certain degree the lack of social

interaction. Such factors of the personal life of the consumer as loneliness or absence of the social interaction make people to be more inclined to interact with an anthropomorphic agents [1], [8]. Thus, this feature of anthropomorphic technologies- to attract consumers with the lack of social communication and replace it with a human-technology interaction can be one of the negative effect of anthropomorphism, posing a potential danger to consumer ability and skills of interpersonal communication and social interaction with other people, which certainly arouses apprehension of the researchers in the fields of social and psychological sciences.

Influence of anthropomorphism on consumer trust towards the technology.

Anthropomorphic features of the technology make consumers to perceive the technology as a real person, which results in increased trust to the technology [1], [2], [16], [17]. According to the previous research works, two main characteristics of an anthropomorphic technology influence on increased consumer trust towards the technology: human-like visual design and behavior, imitating human one [1].

Facing a technology with apparent anthropomorphic features, a consumer automatically expect it to look, behave and communicate as a human being [20]. This means that consumers meticulously consider how well the visual representation of an anthropomorphic technology imitate the face, body, speed of a human speech and movements. If these parameters are realistic enough and are quite closed to the real human characteristics, consumer trust towards this particular technology grows up. However, if the anthropomorphic technology imitates a human behavior and appearance quite similar but not well enough, it evokes negative consumer emotions, making him/her deny the interaction with such technology and significantly decreases trust to it.

Another factor that increases consumer trust towards the anthropomorphic technology is the ability of it to follow social norms and rules of human communication. The previous research showed that consumers have more trust to the anthropomorphic technology if it is polite and follows social norms of etiquette [2], [13]. And oppositely, if the technology is rude or not polite enough in communication, it automatically decreases trust among customers. [16] Thus, such behavioral characteristics of an anthropomorphic technology as etiquette and politeness significantly influence on the consumer positive perception of the technology and increase trust towards it.

Additionally, the ability of anthropomorphic technologies to imitate human emotions, thoughts and behavior makes consumers feel that they really deal with something “alive” and may lead to the consumer fear of the technological intelligence. So, when an anthropomorphic technology look and behaves too much realistic and the manufactures of the technology use in its description such terms as “sorrowful”, “fearful”, “happy and interested”, “contented”, “grinning”, and “frown”, aiming to make it look more “real”, it builds a huge barrier towards using the technology and eventually causes a negative effect on consumer willingness to trust it. [21]. For instance, in one of the previous researches the authors made an example when in medical consulting service a high level of human-likeness of the robots makes patients to feel uncomfortable, as they perceived the robots as too much realistic and were ashamed speak about their medical problems and would prefer a more machine-like robot. [2]

Consumer unwillingness to replace the technology.

According to the previous study consumers are less willing to replace the product/technology when they think about it in anthropomorphic terms [15].

When having anthropomorphic feelings towards the products/technologies consumers consider them as humans in a social context: as a friend, family member, etc., but not as unalive technology any more. And in social life nobody replaces his/her family member or a friend if s/he is sick or old or can't do the same things as those that s/he could do when was young. Instead of it, people try to support their relatives and friends, investing in medical issues. In the same way, starting to perceive the technology as an alive agent due to anthropomorphism, consumer may hesitate to replace the anthropomorphic technology for another one when it becomes old or unreliable. So, anthropomorphism decreases the consumers' willingness to replace the anthropomorphic technology, but increases their willingness to invest more in technical support and extension of the "life" of an existing anthropomorphic product/technology.

Thus, from one side, the manufacturing company of the smart technology gets more opportunities to produce and offer new supplements and provide technical support for an already existing technology, which will be in demand as customer will not be ready to replace their technology during its whole "life". Besides, it will increase customer's loyalty to the same brand and company. But from another side, such unwillingness of the customers to replace the anthropomorphic technology lead to the failure of the company to introduce a new, for example, more profitable product with better anthropomorphic features, which in its turn can lead to low volumes of sales of this new technology and possible financial losses of the company [15].

4 Summary and conclusions

Thus, in our study of the previous research works of anthropomorphism in IS, we tried to identify and summarize the positive and negative effects of anthropomorphism on consumer behavior at different stages of the purchasing process with a special focus on negative effects, as they are rarely mentioned in other researches. We found out that anthropomorphic features of the smart technologies have both negative and positive influence on consumer behavior and often they are two opposite sides of the same anthropomorphic influence. In the summary table presented below we classified, summarized and correspond to each other different positive and negative effects of anthropomorphism on consumer behavior, discussed in the previous research works (Table 1).

At the pre-purchasing stage anthropomorphic features of the product make mainly positive influence on consumer perception of the technology and his/her purchasing intention [7], [13]. When the technology looks and behaves realistically, imitating a human being with its voice, movement and visual design and mostly follows the human social norms of interaction and communicational etiquette, it evokes a positive consumer reaction and increase his/her interest towards the technology already at the initial stage of his/her purchasing process [1], [2], [14]. The technologies with

anthropomorphic characteristics and human features are perceived as more favorable by the consumers among other non-anthropomorphic technologies presented at the market [15]. As anthropomorphism directly influences on emotional acceptance and perception of the technology by the consumer, thus it can also influence and even change the consumer purchasing intention at the pre-purchasing stage.

We found out that anthropomorphism makes an overall positive influence on the consumer purchasing decision-making behavior. However, at the stage of evaluation different options of the technologies, presented at the market, the consumer is distracted from the products' quality by the anthropomorphic features of the technology, which can be considered both as a positive and negative influence [15]. Shifting consumer attention from detailed consideration of the product's quality more to the anthropomorphized features of it, anthropomorphism makes the consumer to decrease his/her requirements to the quality of the technology. This effect gives an opportunity to the company-manufacturer to enhance anthropomorphic features of the technology without increasing the level of quality of its technologies. However, other smart technologies with a significantly better quality but less humanization of the design lose their opportunity to attract consumer attention.

At the stage of post-purchasing consumer' behavior anthropomorphism makes a real positive influence on human-technology interaction during the usage period of the technology [1], [8], [17]. Such anthropomorphic features of the technology as human face, smile, voice, movement or behavior prepossess customers to perceive the technology as a human being, friend, good advisor and make a positive influence on the process of human-technology interaction [16]. However, researchers are concerned about the ability of anthropomorphic technologies with a high level of human-like characteristics to replace the real human social interaction for their users as such factors of the personal life of the consumer as loneliness or absence of the social interaction make people to be more inclined to interact with an anthropomorphic agents [1], [8].

Additionally, in previous researches two-side effect of anthropomorphism on consumer trust towards the technology during the usage period is discussed. In case if the level of realism in imitating a human behavior and appearance is sufficient, consumer trust towards the technology increases. However, if the level or realism is lower or higher than needed, it evokes negative emotions and decreases consumer trust towards the anthropomorphic technology.

Besides, anthropomorphic feelings that consumer has towards the technology make a significant influence on consumer intention to replace the product after the period of its use. This fact, from one hand allows expand the technology's period of performance as the user is not ready to get rid of it even when it's old, starting to consider the technology as a human friend or relative. Thus, the company can expand its maintenance services for this technology, providing supporting goods and supplements. But, from another side, it may negatively influence on the company's intention to launch a new more modern and probably more profitable technology with more advanced anthropomorphic features on the market, as the consumer is not ready to exchange and replace his/her humanized well-known technology for a new one [15].

Thus, in our study we found out that anthropomorphic features of smart technologies can make both positive and negative effects on consumer behavior. So, for our future

studies we intend to mainly focus on negative effects of anthropomorphism in order to differential real potential risks of its influence on consumer behavior and perceived consumer fear of intelligent technology. We assume that the evaluation of potential risks of anthropomorphic effects will allow us determine and measure the force and the depth of their influence on consumer behavior and find the ways of how to moderate and compensate it in the process of consumer-anthropomorphic technology interaction. We consider the identification and classification of constituents of an overall influence of anthropomorphism on consumer behavior as necessary and very important at the initial stage in order to get understanding of the phenomenon and continue further studies in this field. Additionally, we also consider the possibility of a more detailed study focusing on positive and negative influences of anthropomorphism on consumer behavior in different processes of consumer-technology interaction: actual consumer purchasing intention towards the anthropomorphic technology and consumer interaction with smart service agents with anthropomorphic features, such as bots, digital agents, avatars, etc.

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