

# Building a Conceptual Model for Brand Meanings in Wearable Sports Technology

Hilla Karamaki, Sonja Lahtinen, and Pekka Tuominen

**Abstract** The purpose of this study is to build a conceptual model for understanding brand meanings in wearable sports technology. Wearable sports technology is a complex concept, because it integrates characteristics of clothing related issues like aesthetics and comfort as well as properties of electronic devices such as usability. Due to the lack of previous literature within the field of wearable sports technology three domains of literature are combined in the conceptual model to gain deeper understanding of the phenomenon. These three domains include the field of sports brands, technology and fashion. The connection between the two central theoretical constructs of brand meanings and brand relationships is elaborated in the proposed conceptual model.

**Keywords** Brand meanings • Brand relationships • Wearable sports technology

## 1 Introduction

Wearable sports technology is a relatively new phenomenon and therefore, has not yet been extensively studied in the field of marketing research. However, as wearable sports technology has several advantages like exploiting personal data to support health and exercise related goals, it can be argued that there is a need to create a better understanding of wearable sports technology from the consumer point of view.

Brands enable consumers connect to the values and meanings the brand represents, thus enabling consumers to express themselves. In the contemporary consumer culture, consumption is considered as a significant source from which consumers discursively construct their identities. While brands are seen as symbols, which meanings are used to create, sustain and even change consumers' self-concepts, it is important for brand managers and researchers alike to understand these meanings (Escalas and Bettman 2005). In the context of wearable sports

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technology brands, it is essential to gain understanding of these meanings as the field is emerging and becoming visible to the larger audience.

Brands can be self-expressive and important for consumers' identity projects, social categorization, personal style and self-definition (Ahuvia 2005; Escalas and Bettmann 2005; Hemetsberger et al. 2009; Thomson et al. 2005). Due to the multitude of roles a brand can have in consumer's life, this study concentrates on consumers' perceptions of wearable sports technology from the specific brand perspective. Prior research has been investigating technology brands from the perspective of buyer behaviour and decision making (Hamann et al. 2007), but only little research has been conducted from the brand meaning perspective.

The purpose of this study is to build a conceptual model for understanding brand meanings in wearable sports technology. Gaining understanding in brand meanings is essential for future brand development and marketing strategies within the emerging field of wearable sports technology. Due to the novelty of the wearable sports technology as a research topic, there is no specific previous conceptual model to base the study on. Therefore, the conceptual model for this study creatively combines different elements from the field of consumer behaviour and branding research.

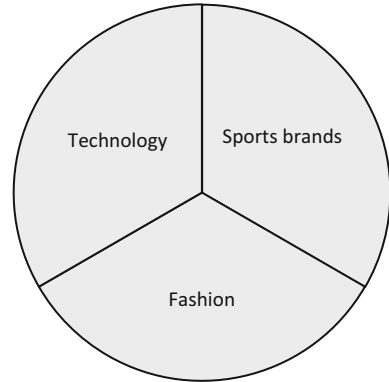
## 2 The Concept of Wearable Sports Technology

Wearable technology is still an emerging phenomenon especially from the perspective of consumer research. Empirical research on consumers' perceptions and attitudes toward wearable technology is insufficient as relevant studies are still in preliminary phases (Kim et al. 2015). Also, the context of health and sport related wearable technology has received only limited attention by consumer researchers.

Wearable technology is complex, because it integrates characteristics of clothing related issues like aesthetics and comfort as well as properties of electronic devices, such as usability. The complexity of wearable technology is only amplified, because it must consider collaboration between several stakeholders, such as end-users, electronic engineers, fashion designers and manufacturers (McCann 2009). In addition to combining technology and clothing related fields, wearable technology is in a close relation with the field of health and fitness (Gao et al. 2015). Due to this plethora of different fields, it appears that the context of wearable sports technology should be defined by three varying domains: sports brands, technology and fashion as illustrated in Fig. 1.

As there exists only limited research upon wearable sports technology, the required understanding of the phenomenon is created by examining relevant aspects from the three domains of sports brands, technology and fashion. Next, each domain is discussed individually from the point of view that is considered relevant for the wearable sports technology. This examination enables creation of brand meaning understanding within the context of wearable sports technology.

**Fig. 1** Domains determining the context of wearable sports technology. Source: created by the authors



## 2.1 The Context of Sports Brands

Bouchet et al. (2013) suggest sports brands to be divided into four dimensions: functional, sensorial, semantic and somatic. Most of these four elements define brand dimensions also within other types of brands, such as luxury brands or technology brands. However, unlike with other brands, the dimensions for sports brands include the somatic dimension that describes the bodily features. In the case of sports brands, it is worth considering also the physical aspect and what it can bring to the brand experience as bodily experiences are an important part of doing sports and consuming sports brands.

The functional dimension refers to the actual utilitarian value and material benefits and is thus closely tied to the product attributes, such as usability, reliability and durability (Wiedmann et al. 2007). For example, the function of a sports watch might be letting the user to see some data about the exercise. Signal recognition, choice practicality and guarantee of quality are also considered as attributes relating to the functional dimension (Kapferer 2012).

The sensorial dimension refers to everything that can be experienced through consumers' senses: vision, hearing, smell, taste and touch (Bouchet et al. 2013). While describing the sensorial dimension, Bouchet et al. (2013) also talk about brands as experience producers. According to Brakus et al. (2009) a brand experience refers to subjective internal consumer responses and behavioural responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications and environments. It has been suggested that the importance of experiences is highlighted in leisure, entertainment and art-related products (Hirschman and Holbrook 1982), a domain where sports brands also belong to.

The semantic dimension refers to the symbolic function of brands, that is, the ability to carry meaning and values (Bouchet et al. 2013). According to Oswald (2012) brands are multidimensional sign systems that can be analysed in terms of material, conventional, contextual and performative structures. In order to be analysed, sign systems need to be available for senses, thus have a material

dimension. Secondly, in order to be understood, sign systems need to be codified by conventions that are shared by the members of social groups. Thirdly, sign systems create social discourses whose meanings are modified by the communication context. Finally, as the communication events engage both the marketer and consumer, it can be said that sign systems are performative (Oswald 2012). This way, brands act as symbols or metaphors for specific constructs or meanings. The semantic function of brands is actively developed and promoted by the marketers, but it is important to also note that sports themselves carry signs, meanings and associations (Bouchet et al. 2013).

The somatic dimension refers to bodily practises expressed and manifested through buying and consuming brands (Bouchet et al. 2013). This dimension is a key characteristic for sports brands, especially for those that promote exercise or some form of training. Sports brands typically use bodily actions like running or cycling in their promotional campaigns.

## ***2.2 The Context of Technology***

A major stream of research that studies consumer behaviour in the field of technology products focuses on technology adoption. It focuses on consumers' behavioural and cognitive motivations in the context of launching new technologies. The way individuals adopt and use new technologies is one of the most mature areas of information technology research (Venkatesh et al. 2012).

Research on technology adoption has found that the user has an increasingly important and interactive role when it comes to design, development and marketing of technology (Vannoy and Palvia 2010). From this perspective, mere acceptance of technology seems to be insufficient a perspective when it comes to understanding what motivates consumers to adopt new innovative technology. Therefore, studies that explore the mere acceptance of technology have gained criticism within the research field. The criticism has led to the emergence of social influence models of technology adoption.

## ***2.3 The Context of Fashion***

Trends are especially important when it comes to wearable products. According to Auty and Elliott (1998), clothing is an important field in encoding and decoding a range of messages. Clothing has been said to be the primary means of communicating the social identity as it tends to symbolize the social identity and the values of the related social group (Auty and Elliott 1998). However, the messages clothes or other wearable products and related brands communicate are not interpreted similarly among all consumers.

Fashion would not exist without the need for belonging to a community and on the other hand, the need to differentiate oneself from others. According to Han et al. (2010), consumers can manage this need by either favouring prominent or silent branding. In their study on different luxury consumers, they found that depending on the consumers' state of wealth and need for status, consumers would either favour prominent or more discrete visibility of the brand in order to either connect or differentiate themselves from a specific consumer group. The idea of connecting and differentiating from others is prominent especially among the luxury brand category. It also explains the dynamic lifecycle of fashion. It has been found that after the masses start to adopt the brands that the elite used to consume, the elite rejects those brands and seeks something new and unique. According to Danziger (2005) the natural evolution of all luxury concepts is to eventually transcend from the elite to the masses. Today, when the information about the lifestyles of the elite is more accessible to the masses, this happens faster than before.

### **3 The Definition and Role of Brand Meanings**

Brands attach meanings to goods. This could be considered as one of the most important functions of branding. Through meanings marketers can differentiate otherwise similar products (Muniz 1997). The importance of meanings in branding is highlighted when we think about how the role of brands has evolved from simply having been a marker that identifies the producer of the product to the actual commodities that are nowadays consumed.

However, brand meaning is not yet clearly defined as it is still somewhat an emerging concept in the marketing literature (First 2009). Brand meaning has been linked to brand attributes (Davis 2007; Oakenfull et al. 2000), brand associations (Henderson et al. 2003) or brand personality (Escalas and Bettman 2005). Therefore, the nature and structure of brand meanings is discussed next in further detail.

#### ***3.1 The Structure of Brand Meanings***

When considering the structure of brand meanings, it is useful to examine the differences between tangible properties, that can be perceived through senses and that can exist independently, and intangible properties, that exist only in the mind of the individual (Batey 2008). Tangible properties come from the object to the consumers' mind through perceived senses, whereas intangible properties originate from the consumers' mind and are projected onto the object (Batey 2008). Based on this remark, meanings of brands are combinations of tangible and intangible properties.

According to Batey (2008) four levels of brand meanings can be defined, reflecting the evolution from tangible, more objective perception, towards intangible properties that refer to more subjective perception. The way by which meanings are shared by a wider group of people is usually based on the objective and more tangible properties of the brand. When brand meanings are defined by a smaller group of people, like a specific culture or a sub culture, the intangible properties become more relevant. On the level of the individual consumer, brand meanings are subjectively constructed from the personal experiences with an object, resulting in personal meanings that vary strongly between individuals (Batey 2008).

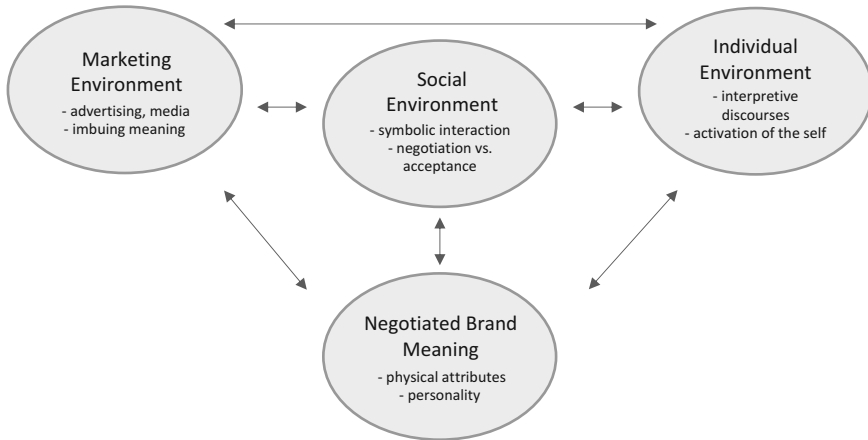
The division of tangible and intangible properties of meanings is closely related to the concept of primary and implicit brand meaning. Primary brand meaning refers to the primary associations and perceptions that would immediately come to the consumer's mind about a certain brand (Chard 2013). Implicit brand meanings refer to the psychic resonance that the brand offers for consumers (Batey 2008). Implicit brand meanings tend to be more culturally influenced and less category dependent than primary brand meanings (Batey 2008). Implicit brand meanings therefore resonate with higher-level values or archetypal patterns of the consumer and are thus important to be clearly understood by the marketer, as they reveal deeper motivations of consumers (Chard 2013).

### **3.2 Creation of Brand Meanings**

Traditionally, it has been thought that advertising agencies and brand managers are the creators of brand meanings. The role of the consumer has been seen mainly as the receiver and acceptor of that communicated meanings. Now, however, it has become clear that brand meaning is not solely constructed in advertising or other media of promotion, but rather in consumers' minds (First 2009). In addition, the creation of brand meanings should not be thought to be something that concerns only the brand and the consumer, since this perspective would neglect the role of the meaning makers, leaving out the influence many other parties, institutions and publics may have in developing, sustaining and changing brand meanings (McInnis et al. 2014).

To include the multitude of factors influencing the creation of brand meanings, Ligas and Cotte (1999) suggest that brand meanings are co-created through three environments: the marketing environment, the social environment and the individual environment, as illustrated in Fig. 2.

In line with Ligas and Cotte (1999) it is suggested that brand meanings are negotiated by interaction between these three environments. Thus, meanings that are developed in one environment may or may not influence the meanings created in another environment. Each environment contributes to the uniform way consumers interact with a branded product (Ligas and Cotte 1999).



**Fig. 2** Theoretical model of co-creative brand meaning development. Source: modified from Ligas and Cotte (1999)

## 4 Brand Relationships and Their Facets

Whether research in branding focuses on brand attachment (Thomson et al. 2005), brand love (Ahuvia 2005) or brand devotion (Pichler and Hemetsberger 2008) what is common for these discussions is that brand relationships are important to consumers' identity projects, personal style, social categorization and self-definition (Reimann and Aron 2015). Consumers bond with specific brands and form brand relationships that have been argued to resemble interpersonal relationships (Hwang and Kandampully 2012), since also brand relationships are characterised by emotional connection (Morgan-Thomas and Veloutsou 2013).

Brand relationships are complex and can take many forms. They might take positive, neutral or negative forms and be characterized as emotional, functional, deep, superficial or cooperative (McInnis et al. 2014). Brand relationships can take forms of casual acquaintances, business partners, teammates, flings, best friends or marriage partners (McInnis et al. 2014). However, critical perspectives towards these decoded archetypal relationship types have been introduced. For example Fournier et al. (2015) propose that even skilfully decoded types of brand relationships are not sufficient for generalizations, but rather create a limited depiction of the relationship consumers create with brands.

Brand relationships can be viewed through varying dimensional qualities. Fournier (1998) mentions six facets that qualify brand relationships: love/passion, interdependence, intimacy, self-connection, partner quality and commitment. Also nostalgic attachment (Solomon et al. 2012) has been examined as an important facet of brand relationship quality. Brand relationships that are determined by these facets are found to be more strong and deep in nature (Fournier 1998, 2015; Reimann and Aron 2015).

### 5 Synthesis of the Conceptual Model

The conceptual model of this study brings together three different streams of literature, the context of wearable sports technology, the conceptualization of brand meanings and brand relationships. The synthesis of the conceptual model is based on the interaction between these domains as illustrated in Fig. 3.

As the phenomenon under study is relatively new especially from the consumer perspective, limited previous literature was available to create understanding of the context of wearable sports technology. Therefore, theoretical perspectives from three suggestive fields were combined in order to gain a referential understanding of the context of wearable sports technology. The theoretical perspectives within each of the three fields were selected to the conceptual model based on the relevance they could offer from the viewpoint of wearable sports technology.

It has been acknowledged that consumption practises and leisure activities such as doing sports, is a common way for consumers to express and build identity (Schwarzenberger and Hyde 2013). Similarly like other types of brands, also sports brands are an important instrument in this process. Bouchet et al. (2013) suggest sports brands to be divided into four dimensions: functional, sensorial, semantic and somatic dimension.

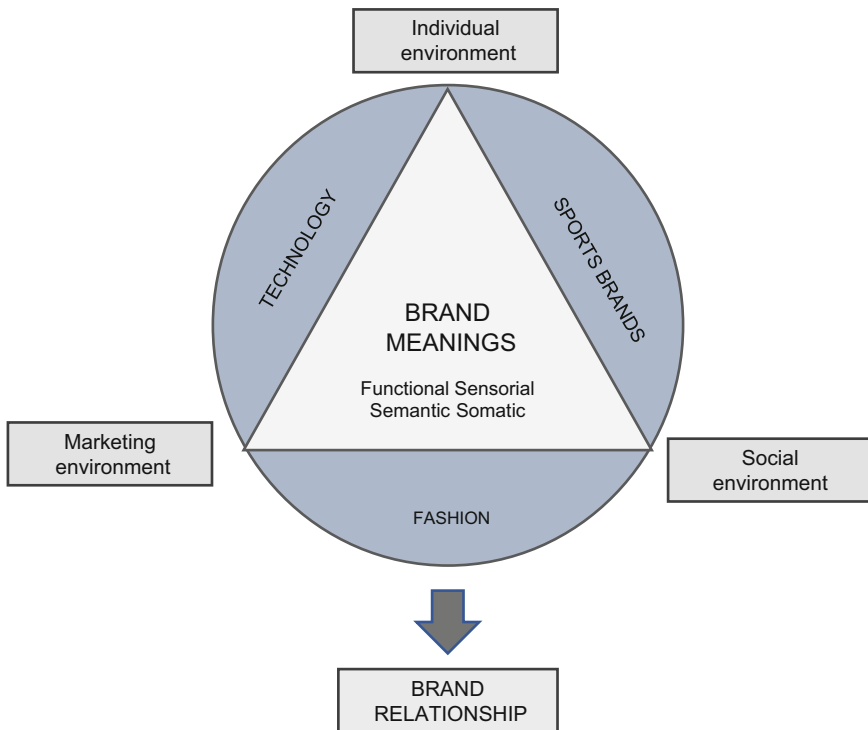


Fig. 3 The synthesis of the conceptual model. Source: created by the authors



In the field of technology, current research has found several relevant constructs that affect consumers' adoption of new technologies: performance expectancy, effort expectancy, social influence, facilitating conditions (Venkatesh et al. 2003) hedonic motivation, price value, habit (Venkatesh et al. 2012) perceived innovativeness and perceived fashionability (Watchravesringkan et al. 2010). Some of these might give valuable insight for understanding what consumers value in technology products and brands and therefore, guide the analysis of the meanings of wearable sports technology brands.

As wearable technology products are literally wearable, it is important to also consider the fashion aspect as it offers valuable insight for this study. Clothing is considered as the primary means of communicating the social identity as it reflects the values of the consumers, but also the related social group (Auty and Elliott 1998). Other important aspects from the field of fashion that were taken into account in this study are the influence of trends (Gaimster 2012) and luxury (Danziger 2005).

The main part of the conceptual model builds on the literature on brand meanings that are interactively created in three environments. These environments include the marketing environment, the individual environment and the social environment (Ligas and Cotte 1999). The marketing environment acts as the initiator of brand meaning, pursuing the creation of strong brand relationships (Malar et al. 2011). In the social environment, brand meaning is actively and continuously created and altered between different social entities, of which reference groups are important from an individual's perspective (English and Solomon 1995).

The concepts of brand meaning and brand relationships are connected as brand meanings partly determine the brand relationship.

## 6 Summary

The purpose of this study is to build a conceptual model for understanding brand meanings in the context of wearable sports technology. Gaining understanding in brand meanings is essential for future brand development and marketing strategies within the emerging field of wearable sports technology.

Wearable sports technology is a complex concept which integrates characteristics of clothing related issues like aesthetics and comfort as well as properties of electronic devices such as usability. The complexity of wearable sports technology is only amplified, because it considers the collaboration between several stakeholders, such as end-users, electronic engineers, fashion designers and manufacturers. In addition to combining technology and clothing related fields, wearable sports technology is in close relation with the field of health and fitness.

Recent technological advancements have enabled opening a new market for wearable sports technology brands. This means that wearable sports technology brands are now conquering the markets as they offer consumers obvious advantages such as support for sports tracking and health monitoring. As the concept of wearable sports technology is only emerging, marketers are facing challenges in

understanding how consumers perceive this new phenomenon. Although the wearable sports technology market is fast becoming an established consumer product category, little research has examined wearable sports technology from the consumer perspective.

Due to the lack of previous literature within the field of wearable sports technology three domains of literature are combined in the conceptual model to gain deeper understanding of the phenomenon. These three domains include the field of sports brands, technology and fashion. The three-dimensional process of brand meaning development is introduced and the three environments—the marketing environment, the individual environment and the social environment—are discussed further in detail. Finally, the connection between the two central theoretical constructs of brand meanings and brand relationships is elaborated in the proposed conceptual model.

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