

## Cyborgian encounters in relationship marketing contexts

Key words: Cyborg, AI, service encounter

### Purpose

This paper discusses the theoretical development and concepts that may apply to a new class of human-robot relationship for marketing contexts. The presentation will discuss preliminary findings into how firms/brands may integrate cyborgian service actors into their propositions.

### Methodology

The paper will develop theoretical concepts. The primary research design (to be reported on in the presentation) is qualitative, combining focus group interviews with projective techniques including videography and animation.

### Findings

Findings highlight the nature of cyborg for service marketing relationships and how consumers perceive that AI (artificial intelligence) and IA (intelligent augmentations) may fuse mind and body with technology.

### Originality

This is a novel research area within marketing that has received little attention in the literature to date. It will be of interest to researchers considering the roles of emergent classes of technology-human hybrids for relational contexts.

## Extended Abstract

This presentation examines an emergent category of relationship that is becoming increasingly relevant to marketers seeking to enhance customer experiences: that between human and robot-human actors. Robots are autonomous devices, imbued with artificial intelligence (machine learning algorithms) and the ability to process natural language. Building on system control theory, such technology systems including robots that reflect anthropomorphic reasoning based on human psychophysiological traits (Minsky 1988; 2006; Belk forthcoming). These systems are increasingly being assimilated with humans through bodily adaptations, frequently referred to as cyborgs (see Masani 1985 for a review of the collected works of Wiener, ‘father of cybernetics’; Kalman’s 1960 predictive algorithm; Pearl’s 2000 development of a calculus for probabilistic and causal reasoning; and for early developments, see Turing 1950, von Neumann 1947, Russell & Norvig 1995, Weiss 1999). These technologies render new types of services to end-users and whilst some, such as the Internet of Things, are both ubiquitously and inconspicuously consumed within their environment, others are made visible through novel interfaces and touchpoints, such as automata (van Doorn *et al* 2017). However, recent classifications of technology ‘infusions’ (automated social presence actors) within service contexts do not recognize human-machine hybrids (eg., van Doorn *et al*, 2017). In contrast, some technology researchers (eg., Kurzweil in Galeon & Reedy, 2017) predict such hybrids will become the dominant form of service provider. Moreover, current relationship marketing theory does not adequately capture the essence of such a relationship. We aim to explore the ways in which robot-human hybrids may be used within relational marketing contexts, reflecting emergent trends in technology developments. In doing so, we briefly examine the emergence of robotics and cybernetics.

Robots have become familiar as humanoid devices (the ‘other’) through their popular conceptualization in science fiction much of which originates with the classic works of Isaac Asimov (Foundation Series, Galactic Empire series and Robot Series), Arthur C. Clarke (HAL 9000) and Robert Heinlein (Waldo – mechanical robot ‘animatronic’ arms). Indeed Asimov coined the term ‘robotics’ and has been instrumental in its continued association with space exploration. For computer scientists, Robbie (Asimov, 1940) remains the ‘gold standard’ for information processing and naturalistic humanlike interaction (Hopgood 2013), encompassing his Three Laws<sup>1</sup> which have underpinned subsequent systems developments such as autonomous vehicles, drones, IBM’s Watson<sup>TM</sup>. In science fact, such devices as Robbie remain fictitious. However, increased computer processing capacities make the possibility for industrial robots to replace the human workforce in an increasingly diverse range of contexts and are a contemporary and realistic threat (eg., Ford 2017; van Doorn *et al* 2017). Indeed, some categories of robot are being considered as ‘caregivers’ (Kohlbacher & Rabe 2015), providing both cognitive and affective support that encompasses teaching and learning (di Lieto *et al* 2017) and emotional agency for human consumers (eg., Boden 2017). What makes such applications pertinent to marketers is not so much the increasingly human-like ways in which devices process data (see eg., de Burgt *et al* 2017) but the ways in which outputs are viewed by users

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<sup>1</sup> Asimov’s Laws (1942): First Law – a robot may not injure a human being or, through inaction, allow a human being to come to harm; Second Law – a robot must obey the orders given it by human beings except where such orders would conflict with the First Law; Third Law - a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.

as demonstrating emotion, empathy and human-level understanding potentially evoking user feelings of attachment to them (Goudey & Bonnin 2016; Belk 2016). Humans anthropomorphize the machine but in so doing effectively willingly participate in a form of deception that, potentially, dehumanizes relationships – robots cannot and do not ‘care’, the technology is simply not capable of self-awareness or sentience in its current state of development (Boden 2017). Robots will increasingly evolve from programmed tools to semi-autonomous and autonomous entities and in doing so extend their anthropomorphic projection to become a ‘legal non-person’ displaying a personhood and consciousness (Belk, forthcoming). Consequently, there is a growing imperative to re-examine our understanding of what it means to be a person or a thing. By extension, this raises important questions about the nature of human relationships with the ‘other’ (see eg., van Doorn *et al* 2017).

An important but neglected entity in the emergence of automated services is the role of robot-human hybrids, otherwise known as cyborgs. Cyborg is defined as a modified (augmented) human (Haraway 1985; Buchanan-Oliver, Cruz & Schroeder 2010) and is the integration of technologies within the body by way of mechanical and/or technological implants or ‘insideables’. The term was coined by Mouthuy and Carr (2017) as a comparator to the commonly used term ‘wearables’. Notwithstanding this, the cyborg of today may be contested as human with a distinct personhood, where prosthetic enhancements may challenge what is inside/outside the body (Stelarc 2005; Clark 2003; Barfield 2015), what is biological/mechanical (Mehlman 2009; Rothblatt 2014) and even what is alive/dead (Belk forthcoming). This raises interesting relational issues. For example, as the distinction between human and robot becomes blurred, when is a cyborg considered to be more robot than human?

Within the computational theory of the mind and cybernetic theory, the human body is already viewed as a machine (Mouthuy & Carr 2017), where technological augmentations enhance its function. Within the marketing literature, however, preliminary research suggests there is consumer fear of such hybridity: Bhattacharyya and Kedzior’s (2012) found that consumers believed they may lose their ‘humanness’ in becoming cyborg, despite overcoming perceived natural flaws and potentially being transcended to a ‘godlike’ status that fuses mind, body and spirit with technology (Belk forthcoming; Galeon & Reedy 2017). Drawing on the robotics and AI (artificial intelligence) literatures, researchers within marketing (eg., Belk forthcoming; Galeon & Reedy 2017) are predicting the rapid convergence of [AI] artificial intelligence-based systems (robots) and [IA] intelligent augmentation systems (insideables, wearables, neuroprosthetics) with humans (biological systems) within the next 10-30 years. Arguably, this point has already been reached. For some, we are in a *posthuman* era, that is, consciousness has been changed by our integration with technologies (eg., Cole-Turner 2011) while others suggest change is biological through technology adaptations, such as ‘neuroprosthetics’ (see <http://www.cbac.global/>), and therefore we are *transhuman* (for a detailed discussion of the theoretical distinctions see Belk forthcoming). These issues raise important questions for the firms/brands that will be the first to employ cyborgs to support service delivery systems in a relational context. For example, what are the perceived issues in engaging with cyborgs as brand relationship ‘custodians’? how will [more] human consumers engage with cyborgs? what will it take to make cyborgs accepted as trustworthy service actors? Furthermore, whilst it is clear that the commodification

of rich personal [‘big’] data that pertains to our *combined* biological and augmented mechanical function is an emergent management problem (see eg., Marinova *et al* 2017), the use of knowledge so rendered to exert influence over humans and others (cyborgs, robots) in a relational [service] context has received little attention in the literature to date. Consequently, questions arise about how firms/brands may integrate cyborgian service actors into propositions; what are the appropriate levels of transparency for relationship management strategies and how are these signified to consumers?

The presentation will attempt to address these issues in theory by developing a conceptual framing for research questions, and subsequently, discussing findings of preliminary qualitative data collection based on interviews and focus groups with service actors and potential consumers.

[1236 words]

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