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Abstract

Purpose—This paper explores the current and future role of Augmented Reality (AR) as an enabler of omnichannel experiences across the customer journey. To advance the conceptual understanding and managerial exploitation of AR, the paper synthesises current research, illustrating how a variety of current applications merge online and offline experiences, and provides a future research agenda to help advance the state of the art in AR.

Design/methodology/approach—Drawing on situated cognition theorising as a guiding framework, the paper reviews previously published research and currently deployed applications to provide a roadmap for future research efforts on AR-enabled omnichannel experiences across the customer journey.

Findings—AR offers myriad opportunities to provide customers with a seamless omnichannel journey, smoothing current obstacles, through a unique combination of i) embedded, ii) embodied, and iii) extended customer experiences. These three principles constitute the overarching value drivers of AR and offer coherent, theory-driven organising principles for managers and researchers alike.

Originality/value—Current research has yet to provide a relevant, conceptually robust understanding of AR-enabled customer experiences. In light of the rapid development and widespread deployment of the technology, this paper provides an urgently needed framework for guiding the development of AR in an omnichannel context.

Keywords—Augmented reality, omnichannel management, digital customer experience, customer journey, situated cognition

Paper type—Conceptual paper

Firms are increasingly challenged to provide compelling customer experiences across online and offline touch points (Lemon and Verhoef, 2016). As customers no longer complete their journey exclusively in one channel (Wolny and Charoensuksai, 2014), they expect firms to integrate online and offline experiences into a seamless omnichannel experience (Cummins *et al.,* 2016). However, despite firms' channel integration efforts, recent market reports show that 54% of UK customers are disappointed with their most recent experiences (Temkin Group, 2017). For instance, many customers find it difficult to envision how online offerings physically fit their personal environments, leading to dissatisfaction when they discover that a sofa that looked good online does not fit the actual décor of their homes. In a similar vein, many customers miss the online world's abundance of digital product information, customisability, and social media connectivity in their physical store experiences. Further, a persistent managerial challenge is to counteract customers' showrooming or webrooming behaviours and thus prevent churn when customers switch between channels (Accenture, 2014).

To address these challenges, a growing number of firms (including L'Oreal, IKEA, Akzo Nobel, and Nike) leverage Augmented Reality (AR) applications to enable omnichannel experiences (Brynjolffsson *et al.,* 2013). Uniquely, AR embeds digital content (such as product information, images, and animations) into the customer's physical environment, interactively and in real time (Azuma *et al.,* 2001). For instance, L'Oreal's AR-based virtual mirror allows customers to virtually try on makeup, thus integrating the 'fit and feel' sensory richness of trying on a physical product into customers' online experience. In similar fashion, Nike's in-store customiser lets customers virtually design a pair of sneakers, thus bringing the

customisability and social connectivity inherent to the online channel into customers' offline experience. According to Apple CEO Tim Cook, AR is "changing the whole experience of how [customers] shop" (Bloomberg, 2017), leading Apple to refer to AR as a core technology and pursue an AR-driven acquisition strategy. The promise of AR is a uniquely persuasive set of 'smart' technologies (Marinova *et al.,* 2017) set to seamlessly merge online and offline customer experiences through an intuitive, context-sensitive, and socially connected interface.

However, despite these developments, it seems that customers remain underwhelmed by current AR experiences. A recent survey by DigitalBridge (2017) reveals that although customers indicate they would be more likely to purchase when firms offer AR applications, more than half (51%) believe that firms are currently failing to take full advantage of the technology. A main reason for such disappointing performance may lie in the fact that firms are not yet able to successfully integrate digital online and offline customer experiences (Accenture, 2016). According to Gartner (2017), inflated expectations have lead initial AR platforms to fail (e.g., Google Glass) and the technology is only expected to deliver value if firms are able to prioritise actual customer needs, such as more efficient and enjoyable shopping experiences that reduce decision making uncertainty (Dacko, 2016).

Existing research into AR offers little guidance to managers on how to successfully deploy AR as an enabler of omnichannel experiences across the customer journey. Prior studies suggest AR's potential to deliver compelling customer experiences (e.g., Poushneh and Vasquez-Parraga, 2017). However in doing so, the literature has predominantly focused on technology acceptance modelling (e.g., Rese *et al.,* 2014), or the investigation of AR media characteristics (e.g., Javornik, 2016a). Identification of AR's overarching value drivers in the context of customer experience, and how these ultimately benefit customers' decision making, has been neglected to date. A coherent, theory-based research agenda that accounts for how AR can address current obstacles and uniquely integrate online and offline experiences would enable managers to deliver integrated, real-time, and contextual customer

experiences. That is, fulfil the right customer need at the right moment in the customer journey (Marketing Science Institute, 2016).

To guide both the conceptual and managerial development of AR-enabled omnichannel experiences, we draw on contemporary theorising of situated cognition (Robbins and Aydede, 2009; Semin and Smith, 2013). Situated cognition implies that customer experiences seem most realistic when they integrate information about products and services in real-time within the immediate decision context (i.e., are embedded), allow for physical interaction with a product or service (i.e., are embodied), and provide opportunities for communication with other customers (i.e., are extended). We posit that AR is unique because it satisfies all three criteria. AR's integration of interactive, real-time virtual content into the customers' view of physical environment enables *embedded*, *embodied*, and *extended* customer experiences. This combination allows linking of customer experience across channels where behaviours traditionally reserved for offline business can be expressed into the online world, and vice versa. The three principles of embedding, embodiment, and extension provide a much needed and strong conceptual foundation for future research efforts on AR. In turn, this foundation will benefit management through engendering development of AR as a novel form of digital customer experience that facilitates omnichannel behaviour throughout the customer's journey.

Following a brief introduction to situated cognition theory and a discussion of its suitability for guiding the research agenda, we take stock of current AR literature and identify key research themes and gaps. To paint a more vivid picture of AR-enabled omnichannel experiences, we then illustrate how a variety of currently deployed AR applications enhance key steps in the customer journey. We conclude by providing a range of relevant, conceptually robust research directions to inform future inquiry into AR.

Grounding AR in situated cognition theory

The seamless integration of the online and offline worlds lies at the heart of omnichannel experience (Brynjolfsson et al., 2013). A marketing imperative is thus to provide customers with an authentic omnichannel experience. For customers, a sense of authenticity and realism arises when they can naturally interact with—and make purchase decisions about— firms' products and services. Yet achieving this in both online and offline settings is a key challenge for managers. Emerging theories of situated cognition (Robbins and Aydede, 2009; Semin and Smith, 2013) help explain how people naturally engage in information processing, preference formation, and decision-making. Increasingly, situated cognition has been applied to explain customer experience and behaviour (e.g. Krishna and Schwarz, 2014). In particular, situated cognition suggests that customer experiences are most realistic and compelling when they are:

Embedded—Customers often find it difficult to imagine how firms' products and services fit them personally or fit with their environment. Customers therefore use their immediate surroundings as a real-life 'drawing board', which they can alter in ways that facilitate the evaluation of products or services (Wilson 2002). For instance, some customers may lay out placeholders in their home to assess the placement of furniture vis-à-vis the current décor; others will mix and match pieces of clothing in a department store to find the best look.

Embodied—Customers draw on their own physical experiences and actions to learn more about products and services. Research has shown that physical interaction such as touching, rotating, or moving around a product, but also the simulation of physical interaction, via touchscreens or 360-degree product rotations for example, may evoke affective reactions and improve customers' ability to evaluate an offering (Brasel and Gips, 2014; Grohmann *et al.,* 2007; Rosa and Malter, 2003). To illustrate, customers will often physically move furniture, or sit in different positions on a new couch,

before they decide where to position it. Similarly, an online 360-degree product view may simulate physical interaction with a piece of clothing. Rotating it provides an experience of not just how the product looks, but may even suggest how it feels to wear the look.

Extended—Customers rely on others to support them in product or service evaluation. Because people have a natural tendency to share their experiences with peers (Echterhoff *et al.,* 2009), customers commonly consult peer reviews, go shopping together, and increasingly share their shopping in real-time through highly visual social media such as Snapchat. Asking family and friends to rearrange placeholders around a home provides customers with new perspectives, and getting others to comment on a mix of clothing may change how customers see themselves in those clothes.

In contrast to other emerging technologies, which immerse customers into a fully synthetic environment (e.g., virtual reality), AR supplements reality rather than replaces it. As such, it is the perfect lynchpin between the online and offline world and provides a natural application for a situated cognition perspective. AR contextualises products and services by embedding digital content into the customer's physical environment, interactively and in real-time (Azuma *et al.,* 2001); and increasingly allows customers to share their enhanced view of reality with others (Scholz and Smith, 2016). We contend that AR blurs the boundaries between online and offline channels by providing a unique combination of embedded, embodied, and extended experiences.

In online settings, a multitude of virtual try-on or try-out tools have emerged to provide customers with vivid contextual information (e.g., L'Oreal's makeup or Mr. Spex' new pair of sunglasses on one's face) that has traditionally been reserved for offline experiences (Yim *et al.,* 2017). In contrast for offline settings, AR provides customers with customised and interactive information (e.g., Siemens' product use animations, or Nike's

product customisation options) previously absent from the physical point-of-sale (Olsson *et al.,* 2013). By virtually tagging online product ratings on the physical product packaging, apps like the 'Vivino' wine scanner also empower customers with immediate access to social communication. The value proposition of AR is thus to enhance the customer experience by merging the touch-and-feel of the physical world with highly vivid, customised, and connected digital content. This naturally blends online and offline experiences to overcome limitations of any individual distribution channel. Initial evidence on the performance of deployed AR applications is promising. For example, the online marketplace Apollo Box has experienced a 25% increase in conversion rates and greater customer engagement with their offerings (Techcrunch, 2017); the French eyewear retailer Direct Optic reports 41% higher conversion rates and 12.5% larger basket sizes for customers using their AR try-on tool (Total Immersion, 2012). For managers, AR thus addresses the concerns of showrooming and webrooming, and maintains customers as they switch between channels during their journey.

Explicating AR-enabled omnichannel experiences

To comprehensively describe AR's omnichannel potential, we review selected relevant literature and consider how AR links offline with online, and online with offline experiences. In Figure 1, we summarise the specific conceptualizations and measurements of AR's unique features in current research according to the situated cognition principles of embedding, embodiment, and extension. Furthermore, we provide an overview of their effects on customer experience-relevant downstream consequences and identify a number of contingency factors. This research synthesis reveals several common themes, but also research gaps, which we discuss in greater detail in the following sections.

INSERT FIGURE 1 ABOUT HERE

Integrating offline experiences into the online experience

AR offers myriad opportunities to enable omnichannel experiences by integrating elements into the online environment that traditionally have been reserved for in-store experiences. An acknowledged obstacle for customers starting their journey online is the absence of direct product trial, which in turn may lead to virtual shopping cart abandonment, product returns, and webrooming behaviour. Many AR applications are thus aimed at empowering customers to try on (e.g., Ray-Ban sunglasses, Gap clothing, or L'Oreal makeup in a virtual mirror) or try out products (e.g., an IKEA sofa in a real-time view of one's living room), as they would in a physical offline experience.

In line with our conceptual perspective, these AR applications create an authentic omnichannel experience across the customer's journey. Because they provide customers with an *embedded* offering virtually present in a personally relevant environment, AR applications close the gap between online and offline shopping. Combined with a sense of *embodiment* resulting from a natural interactivity and simulation of physical control over virtual offerings, which often goes beyond what is possible in physical environments, AR-enabled experiences may not only surpass traditional online shopping but also offer many advantages over offline experiences. For instance, the largest European online retailer for eyewear, Mister Spex, provides its customers with a wholly new experience in the online pre-purchase stage; with the help of an AR virtual mirror, customers can virtually try on any pair of sunglasses from their vast online assortment and assess the resulting look from all sides through natural head movements.

Early research explicated AR effects in terms of generic media characteristics (see also Figure 1). Authors noted providing customers with interactivity and a more vivid, richer, or highly personalised presentation format as key characteristics of AR (Javornik, 2016b; Parise *et al.,* 2016; Poushneh and Vasquez-Parraga, 2017; Yim *et al.,* 2017). This approach, however, has difficulty explaining the value creation within AR-enabled experiences in online

contexts where interactivity and enhanced presentation formats are common. In response, a recent work by Hilken *et al.* (2017) investigated the utilitarian and hedonic value of AR by suggesting a fit with the situated mode of cognition, which customers preferentially employ in everyday shopping situations. From this perspective, the value of AR-enabled experiences is explained by the conjunction of environmental embedding and sense of embodiment. Focusing on these conceptual dimensions highlights AR's uniqueness in the online channel—that is, providing customers with the means for direct examination of offerings within a personally relevant context.

Because customer-to-customer connectivity is increasingly important in delivering omnichannel customer experiences (Verhoef *et al.,* 2017), the early absence of AR social features has been a limiting factor in the technology's proliferation (Javornik, 2016a). However, recent applications have begun to address this limitation by enabling e*xtended* AR experiences. Akzo Nobel's 'Visualiser' application is one example of this. Customers using this application can virtually redesign the wall colour in their home, and they can then share an image or video with peers. By inviting peers to directly modify the shared images or videos with their colour recommendations, a shared model of AR is co-created through iterative feedback between customers. This highly visual, context-sensitive form of communication enables peer customers, who in current online interactions are oftentimes limited to 'liking' or commenting, to become active contributors to a shared customer experience (Scholz and Smith, 2016). Research has yet to conceptualise and empirically assess the ability of AR to provide such extended customer experiences. However, our strong conjecture is that shared visualisation and manipulation of AR objects is critical to its success, and likely leads to enhanced perceptions of embedded and embodied experiences that may be explained along the theories of socially situated cognition (e.g., Semin and Smith, 2013).

Because current AR applications vary in the extent to which they provide embedding, embodiment, and extension, the resulting customer experiences likely vary accordingly. The

literature shares a common view that a compelling AR experience provides customers with a balance of utilitarian and hedonic value, enhanced decision-making, and positive behavioural intentions such as purchase and word-of-mouth or intentions (e.g., Hilken *et al.,* 2017; Poushneh and Vasquez-Parraga, 2017; Yim *et al.,* 2017). Research has also revealed that measures of the realism of the experience constitute the process variables underlying these effects (see also Figure 1). Several studies have shown that general sensations of flow and immersion in the experience may help to explain the benefits of AR use (Javornik, 2016b; Parise *et al.,* 2016; Yim *et al.,* 2017). Most recently Hilken *et al.* (2017) emphasised an AR-specific process by which customers gain a feeling of spatial presence of virtual objects; that is, when using AR, customers suspend disbelief and become convinced that they are really trying on and interacting with an actual pair of sunglasses, a new makeup look, or clothing from next season's fashion line. However, there is limited insight into relevant boundary conditions of AR omnichannel experiences, such as customer preference for visual or verbal information processing, or privacy concerns about using new technology (Hilken *et al.,* 2017; Poushneh and Vasquez-Parraga, 2017).

Integrating online experiences into the offline experience

In offline settings, AR provides an opportunity for novel in-store experiences and increased engagement by providing seamless access to digital content that is traditionally available only to online shoppers. A variety of AR applications digitally animate products or their packaging (e.g., Lego's product visualiser) and provide contextualised product or service information, such as online reviews (e.g., the Yelp 'monocle' overlays online ratings on physical restaurant locations). At Walgreens, customers can use the 'Aisle411' application to receive digital way-finding support that helps them locate products in the supermarket aisle. Similar to the filter functionalities of online shops, recent AR applications also let customers visually highlight or de-saturate products in the physical assortment to personalise their

choice set. AR thus offers firms a powerful tool to create memorable in-store experiences, increase fun and the time spent in-store. It also delivers on digital customer experience imperatives for offline retail (Deloitte, 2014): offering better price comparisons, facilitating product browsing and assortment navigation, and providing enhanced information about product features, variations, and availability. From an omnichannel perspective, augmentation of the in-store experience promises to promote store loyalty, whilst counteracting the loss of customers to online shops, reduced in-store traffic, and showrooming behaviour.

Following the line of argumentation on situated cognition, the focus of augmenting a product or service has largely been on the firm's own brand to increase perceived information (Park *et al.,* 2008), reduced risk (Alimamy *et al.,* 2017), and a positively perceived shopping experience by *embedding* virtual information into the physical environment of the customer (Poncin and Mimoun, 2014). Enhancing the product at the point-of-sale with contextual-relevant information by displaying a link to the firm's webpage, a product-video, or nutrient information on the customer's devices at the point-of-sale (Olsson and Salo, 2011) creates a brand-centric approach to AR. Firms often conceive of AR as a way to enhance the brand or a service. Hyundai's AR application 'X-ray', for example, provides information about a car's engine for easier maintenance and decreased maintenance costs due to lower customer service enquiries and changes the consumption experience as we currently know it (Farkhatdinov and Ryu, 2009). Similar applications can be found in virtual travel agents, for example by National Geographic, in which the augmented reality application displays historical information to the customer when the camera of a mobile device is pointed at a specific monument or historic place or building (Han *et al.,* 2013). Managers, however, should be mindful of AR enhancements not only in how they affect a brand but also the customer's perception of the brand in relation to its competitors on the retail floor.

Embodied digital information in an offline retail setting is another important consideration. By uniquely adapting to a customer's location, motion, and self-controlled

interaction with the product, AR offers enhanced experiences as well as a wealth of information about customer behaviour in the store. Enhancements of the service consumption experience such as the Digital Binocular Station Canterbury Museum (NZ) in which exhibition pieces become virtually alive (Neuhofer *et al.,* 2014) not only make the experience fun but also can record how individuals respond and react to these enhancements in real time.

Peer-to-peer communication, while still not being fully modelled by marketing literature (Mulhern, 2009) can significantly impact a customer's attitude and purchase intention towards a product (Wang *et al.,* 2012) as well as increase customer loyalty (Rapp *et al.,* 2013). Recent applications, such as the social AR application 'Mirage', enable customers to view, react to, create, and co-create augmented content in physical environments by attaching virtual information (e.g. text, pictures, emoji, and videos) to physical objects, disrupting how customers leave feedback about locations or products and services consumed in certain areas. Virtual tags can range from customer rating about a certain retail store to opinions or recommendations about a product, or even a virtual representation of the walking-path a peer took along a series of monuments. These offline experiences are *extended* by socially co-created information that can be accessed on demand. Similar applications in retail environments create numerous strategic implications for managers looking to communicate with customers at the point of sale. AR will likely also disrupt the dominance of product packaging and in-store promotions, which will compete with socially generated content that exists on the retail floor, and in relation to specific products and brands.

Comparable to the previously mentioned applications of AR in online environments, there are multiple situations in which AR enables omnichannel experiences and current applications vary in their degree of embedding, embodiment, and extension. As illustrated in Figure 1, scholarly research has yet to explore the effects of AR on the offline channel experience, as prevailing literature on AR applications in offline environments focuses on technology-acceptance, user-evaluations, and affective customer reactions (Dieck *et al.,* 2015;

Olsson *et al.,* 2013; Rese, *et al.,* 2014). Limited research is available to explain which attributes AR needs to provide to enhance customer's experiences (Poushneh and Vasquez-Parraga, 2017), in which contexts customers are willing to use augmented reality (Rauschnabel and Krey, 2017), and how AR enables customer satisfaction and value (Ross and Labrecque, 2017).

Mapping AR-enabled omnichannel experiences across the customer journey

The key premise of this paper is that AR provides customers with a seamless omnichannel experience by closing the channel gap at various online and offline touch points. A customer journey sequences these touch points into steps that customers go through when making a purchase. At each step customers have distinct feelings, thoughts, and behaviours that jointly produce the customer experience (Wolny and Charoensuksai, 2014). Table 1 presents the expanded customer journey model by Batra and Keller (2016). In contrast to traditional purchase funnel models, this more detailed view of the customer journey accounts for the complex and omnichannel paths to purchase that customers increasingly follow. For each step in the journey, we illustrate how current AR applications enable an embedded, embodied, and/or extended experience, and how this enables firms to integrate offline into offline experience, and vice versa.

INSERT TABLE 1 ABOUT HERE

Setting the research agenda for realising the promise of AR

Digital and mobile channels have advanced the necessity of developing omnichannel strategies as various customer contact points are used interchangeably. Within this context, AR applications hold the promise of playing a prominent role in shaping the customer's experience across the customer journey. In order to sustain such a role, research is needed that extends the depth of our understanding of AR in the omnichannel context. By formulating a

future research agenda, we propose a number of directions that may advance scholarly knowledge and guide firms in shaping their omnichannel strategies.

1. Mapping journey complexity—To begin with, we feel that more research such as that of Wolny and Charoensukai (2014) is needed that takes a number of trajectory configurations customers follow in their omnichannel journey into account. By deploying longitudinal designs, insights can be developed with regards to the how and when AR technology can most optimally be deployed to enhance the customer experience across various touch points. The categorisation provided in Table 1 may provide a valuable guiding structure for such research efforts.

2. Unpicking decision complexity—Current research has largely focused on assessing AR's impact in terms of perceived value, satisfaction, and purchase and recommendation intentions (see also Figure 1). Future research should incorporate a wider array of variables beyond these commonly used evaluative judgments. As customers are using a mix of channels for purchase decisions it seems pertinent to gauge the impact of AR on both elements of the customer decision making process (e.g., gathering and assimilating information), reflections thereof (e.g., decision confidence or comfort), and actual choice behaviour.

3. Seamless integration of modalities and channels—Because the embedding of digital information into the customer's physical environment is a key feature of AR, there is a need for further insights as to which modalities of information (e.g., text, image, or video) and combinations thereof work best for enhancing the customer experience across various channels.

4. Equivalence of augmentation across channels—Perhaps fundamentally, there is a need to identify what factors are pivotal to translating specific AR attributes and affordances (such as those illustrated in Table 1) into positive customer experience evaluations. Recent research on embodied cognition (e.g., Elder and Krishna, 2012) reveals that when customers' perceptions between physical control and certain types of products (e.g., a bottle of soda)

align, this underscores the expectation of a sense of movement. It remains unclear whether such effects come into play in relation to virtual products and how AR could be configured to simulate congruence between perceived control and virtual depictions of products.

Additionally, as firms are designing AR-based customer experience offerings, research needs to uncover whether suspending disbelief plays a key role in creating added value in the eyes of the customer. Issues related to the suspension of disbelief as a central explanatory mechanism relate to how long does it take for customers to accept virtual depictions as real across multiple channels?, what design parameters are pertinent to eliciting this phenomenon (e.g., processing power, graphics, display or consistency, and richness of narratives)?, and do these vary with the use of different information modalities?

5. Non-equivalence of customers across channels—Relatedly, we need additional theorising and empirical assessment of relevant customer traits to account for heterogeneity in AR-based customer evaluations. Figure 1 illustrates the relative paucity of knowledge about such influences. Additional personality characteristics, such as need-for-touch, mental imagery abilities, and product use experience and familiarity may exert an influence on the way customers evaluate their omnichannel journey.

6. Advanced scope of AR—Finally, situational contingencies or the context of use, such as the function or purpose of AR in relation to products (e.g., a Shazam-like approach to furniture or clothing) and extending AR-based experiences through social networks (e.g., allowing the incorporation of fellow customers and joint decision making) will not only determine whether customers find the technology valuable but also acceptable. Also, a relatively underdeveloped direction is whether AR can be effectively used to enrich the delivery experience of intangible and co-produced services (as opposed to physical products).

As firms are strategising to stimulate conversions through online and mobile channels, the use of AR is primarily geared towards creating a more engaging customer's journey across all channels. Addressing the aforementioned issues, among others, through future

research will be crucial in moving AR technology beyond the hype of Pokémon Go and determine whether AR-based customer experiences will be key in transforming firm's omnichannel strategies.

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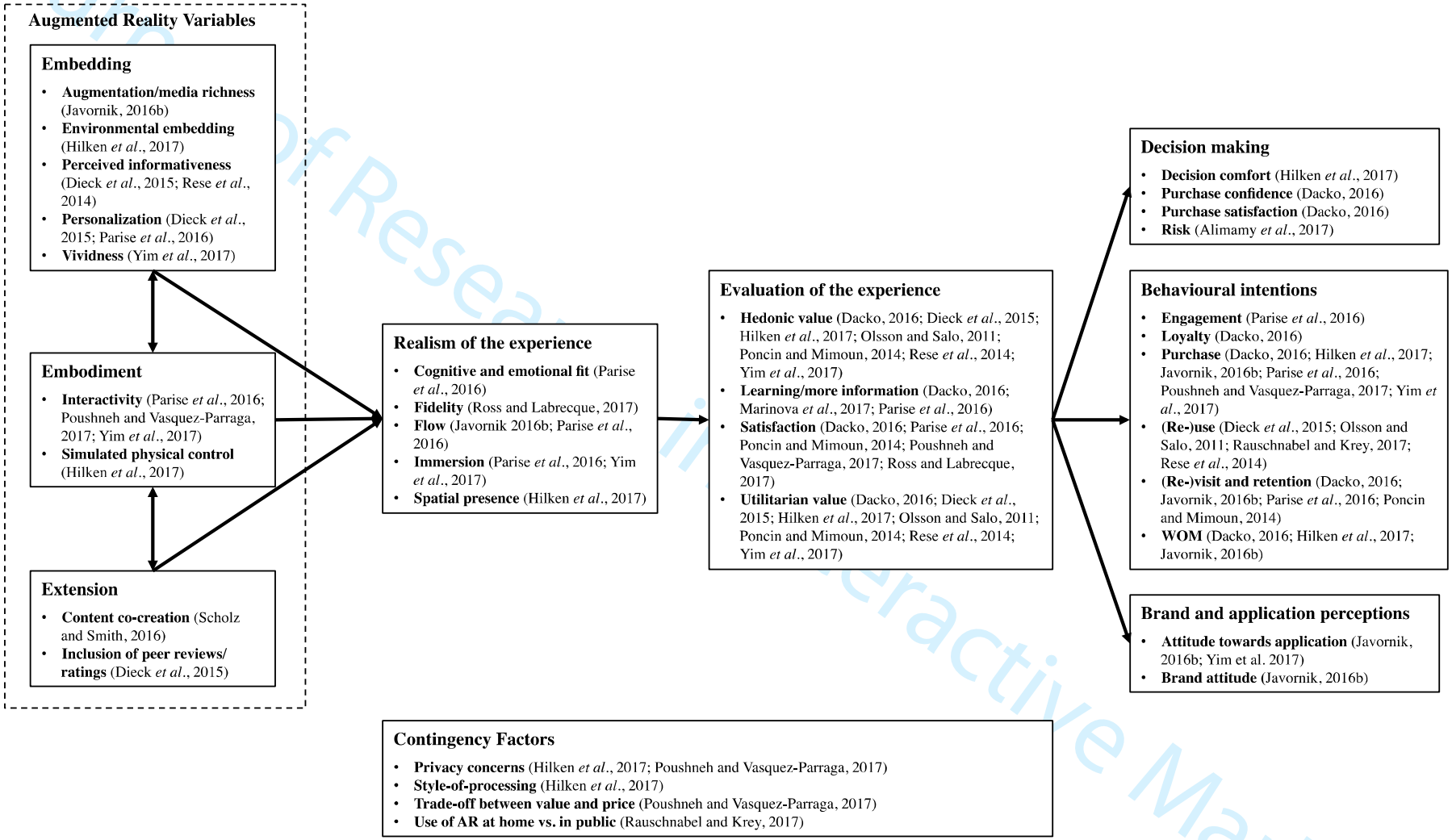

Note: When the same reference appears next to an AR variable and a downstream variable (related to customer judgment of realism, evaluation of the experience, decision-making, behavioral intentions, and/or brand and application perceptions), then the author(s) investigated the relationship between these variables. For instance, Javornik (2016b) studies the effects of augmentation on flow, and in turn purchase/visit/recommendation intentions, brand attitude, and attitude towards the application.

Fig. 1. Synthesis of current research on AR-enabled customer experiences

Table 1—Overview of AR-enabled omnichannel experiences at different customer journey steps

Customer Journey Step	Practical AR Application	Nature of the AR-enabled experience			Omnichannel Link	
		Embedded	Embodied	Extended	Online → Offline	Offline → Online
 **Needs/ Wants**	AMC Theatres AR *'make movie posters come alive'*	Point phone camera at movie posters, get trailers, and ticket sales information			✓	
 **Awareness/ Knowledge**	The Kapaq AR menu *'visualize your restaurant order'*	Point phone camera at menu item, get realistic 3D image of a meal in front of you	Rotate and inspect the 3D image of a meal from all sides		✓	
 **Considers/ Examines**	Sipp AR Wine Club *'enhance your wine expertise'*	Scan label of a wine bottle to discover occasions and food pairing suggestions			✓	
 **Searches/ Learns**	Aisle411 and Tango AR shopping at Walgreens *'learn about and navigate to product location'*	Highlight sales promotion and provide rewards while browsing in a retail environment	Pre-select products online then search and navigate to product locations in the physical store			✓
 **Likes/ Trusts**	The IKEA AR app *'place virtual furniture in your home'*	Place 3D images of items from an online catalogue in a customer's room	Move and rotate 3D images of furniture to find the best fit in a room	Save and share photos of "favourite" compositions of own spaces supplemented with virtual furniture pieces		✓
 **Sees Value/ Is Willing to Pay**	The L'Oreal Make-up Genius *'virtual mirror for makeup—try, share, buy'*	Scan a physical product or select from online catalogue; view how make-up looks on your face	Move the head to inspect the look from different angles; ability to immediately buy the look you are 'wearing'	Save the look and share it with friends via seamless link to social media	✓	✓

	**Commits/ Plans**	The Hyundai Virtual Guide *'select features of your new car'*	See how features described online change the look of a car's interior or exterior		Schedule test drive in a car with the chosen features, at a dealership	✓
	**Consumes**	Augmented GeoTravel *'learn about the places you are visiting'*	Scan city landmarks to get historical facts, accommodation tips, and reviews shared by other customers		Access reviews and suggestions of other customers at the point of consumption	✓
	**Is Satisfied**	The WallaMe App *'share messages and ratings of the real world using AR'*	Point a phone at an object and leave or view an AR text, picture, or video		Messages viewed by others who rate it includes "like" button allows others to assessing the created visuals	✓
	**Is Loyal/ Repeat Buyer**	Dulux Visualiser app *'colour your rooms'*	Scan physical room as picture or video and change look; return to earlier saved preferences	Move the point of view through a redesigned room	Share and co-create a design with friends for shared decision making	✓
	**Is Engaged/ Interacts**	Pokemon Go *'find and catch virtual creatures'*	Find AR creatures by pointing phone at physical landmarks and locations		Team play and gamification enhance engagement	✓
	**Actively Advocates**	Mr Spex app *'try glasses and share'*	Try on glasses in a virtual mirror	Move head to view glasses from various sides	Share an augmented picture with your friends on social media to obtain likes or comments	✓