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Solving the crisis of immediacy: How digital technology can transform the customer experience

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Abstract Marketers are currently facing a 'crisis of immediacy' challenge: how to meet consumers' need to receive content, expertise, and personalized solutions in real time during their shopping experience. Today's digital technologies—such as video conferencing, location-based mobile apps, and augmented reality—provide a highly personalized and immersive environment that allows for interactivity and rich information exchange between the brand and consumer. We conducted in-depth interviews with over 35 retailers, large-scale surveys with international shoppers, and pilot projects with stores and banking institutions to study how companies are leveraging digital technologies to transform the customer experience. Our findings show that there are two main technology-based models that organizations are deploying to support customers' immediate needs: the remote expert and the digital assistant. We provide company examples of both models, as well as when they are most appropriate and success factors to inform managers.

1. What is the crisis of immediacy?

In late 2013, Amazon introduced Mayday, a single-click video chat solution that allows customers to interact with a remote tech support representative to solve problems with their tablets 24/7. The service allows customers to see the tech support person in a small window while the support person can watch what the customer is doing online and can interact with the device. According to Amazon CEO Jeff Bezos, it is "actually very similar to having someone next to you" offering tech support (Biggs, 2013). Solutions such as Mayday—which provide the customer with real-time, personalized support through a remote expert—have the potential to significantly shape how customer service is delivered going forward. With Mayday, Amazon has been

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able to beat its response time goal of 15 seconds or less with an average response time of 9.75 seconds (Shaul, 2014).

The Mayday example illustrates the potential for today's immersive digital technologies to transform the customer experience by delivering real-time, context-specific expertise when and where the customer needs it. We define the *crisis of immediacy* as the need for consumers to receive content, expertise, and personalized solutions in real time during their shopping experience. We are living in the age of the informed consumer; because consumers are comfortable with using self-service technologies, they are much better informed today about the products and services they intend to purchase. According to HubSpot (2011), 89% of U.S. Internet users search online before making a purchase, even when the actual purchase process itself is conducted at a local business. Therefore, consumers are expecting higher levels of service from the retailer throughout their purchase journey. Roughly 50% of U.S. online consumers will abandon their purchase if they cannot get quick answers to their questions (Leggett, Schoeller, Band, & Bookstein, 2013).

Customers are increasingly becoming omnichannel shoppers, using multiple channels—such as physical stores, websites, social platforms, and mobile apps—to conduct a single transaction. It is estimated that 86% of global shoppers and 65% of U.S.-based shoppers currently shop across at least two channels (McPartlin & Dugal, 2012). Furthermore, online shoppers are spending more (Maxwell, 2013) and are more profitable (Graeber, 2013) when they use multiple channels.

It is no longer sufficient for retailers to think in simple terms of online versus physical stores and to strategize on how to optimize sales in each channel. The consumer experience is determined by a complex mix of touchpoints to the brand, and how the retailer engages with each user in terms of providing immediate, personalized, and emotional content will determine its success. Digital touchpoints can change how consumers interact with a company's products and services. A traditional challenge for physical retail sites has been *showrooming*, wherein consumers use the physical store to examine and determine which products and brands they want to purchase and then make the purchase online, often for a competitor's product. Consequently, retailers are starting to practice *reverse showrooming*, wherein they encourage bricks-and-mortar consumers to search their products online through kiosks or mobile apps, thereby increasing the likelihood of keeping the sale. With this practice, the physical branch or store can improve its value proposition by moving away from being tactical transaction processors toward using a highly immersive, interaction-oriented model of providing advice and expertise to buyers on demand.

Our research indicates that leading organizations now have the technologies, processes, and customer analytics to provide expertise to consumers at their physical locations or anywhere customers may reside, such as in their homes. While physical stores certainly are not going away, they will have to rethink how to improve the customer experience delivered onsite in order to succeed and differentiate in an increasingly digital environment. By understanding both in-store and online behavior, retailers can provide a richer customer experience by delivering content-in-context, or the right information at the right time in the right place.

1.1. About the research

The insights provided in this article are based on research we conducted over the last five years with a number of organizations using leading-edge customer-facing digital technologies. We interviewed over 35 retailers across different industry sectors that have used video, social, and mobile technologies to interact with end customers across different channels. We talked with marketing, strategy, analytics, and information technology professionals in these organizations to understand effective practices and lessons learned regarding the design, build, and implementation of omnichannel technologies. In addition, we interviewed technology vendors—in particular those associated with the delivery of video conferencing and mobile solutions—to understand the impacts of location-based solutions.

We have included findings from the Cisco Systems Consulting Services (CCS) group based on years of in-depth omnichannel research and technology solutions in these areas. This research includes interviews and surveys in the retail space of 2,000 U.S. and UK shoppers and 3,000 shoppers from Brazil, Mexico, and China. The group also ran pilots involving the implementation of immersive in-store technologies, such as virtual mirrors, in retail organizations. CCS has also conducted research with leading retail banking institutions. Many of these clients have implemented or are in the process of using Remote Expert solutions, which is based on Cisco's customer collaboration and video conferencing technology.

2. The virtual expert can transform the customer experience

Today's digital technologies can provide the environment to enable *virtual experts*: agents who

interact with consumers to answer questions, provide recommendations, and deliver advice in any place, time, or format. These virtual experts can take many forms, from live experts connected to the consumer through video conferencing to digital agents that interact with the user through mobile apps or augmented reality technology.

The S-O-R theoretical model has frequently been used in studies to understand online consumer behavior (e.g., Zhang, Lu, Gupta, & Zhao, 2014; Zhang, Lu, Wang, & Wu, 2015) and is particularly suitable to study virtual experts. This model (Mehrabian & Russell, 1974) is based in environmental psychology and posits that environmental stimuli (S) affect an organism's internal state (O), which then drives that organism's behavioral response (R). Applying this model to an omnichannel context, we suggest that digital stimuli of technology (personalization, interactivity) impact the customer's experience (immersion, flow, cognitive and emotional fit), which leads to customer behaviors and attitudes such as satisfaction, learning, retention, engagement, and purchases (see Figure 1).

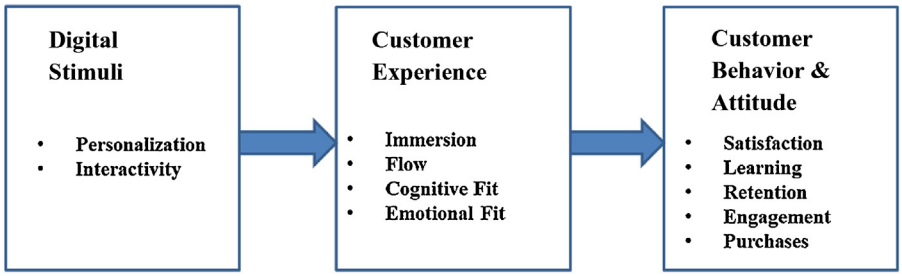
Based on our research, we find that there are two critical digital technology stimuli that can lead to a rich customer experience: personalization and interactivity. *Personalization* entails providing expertise and solutions based on the consumer's in-store behaviors such as product browsing, product comparison, and desire to check out; in addition to more traditional factors such as his/her online activities, stated preferences, and demographics. It often results in positive consumer attitudes toward the brand since the consumer feels that the company cares for and values him/her (Liang, Ho, Li, & Turban, 2011). Personalization in the retail space is often the result of an advanced customer analytics capability: the ability to integrate and provide insight from customer data across all touchpoints. Meanwhile, mobile apps, augmented reality, and live video communications technologies can enable *interactivity* by connecting the shopper with the product expert in real time in an immersive environment. Interactivity gives buyers a sense of control as they converse with the brand about their desires and needs (Klein, 2003).

One way to think about the customer experience is in the context of the customer journey: the awareness, consideration, purchase, service, and advocacy stages. Retailers must now have the appropriate knowledge to service customers at any of these multiple touchpoints. Therefore, in a technology-mediated environment, we define *flow* as the degree to which the user navigates successfully across multiple touchpoints. An environment with a high degree of flow indicates that there is a seamless and integrated series of interactions from the user's perspective, including information sharing, and this results in an enjoyable user experience (Novak, Hoffman, & Yung, 2000) and potentially a positive impact on sales. Dhebar (2013) makes the case for a holistic approach to the totality of touchpoints across all stages of the customer relationship lifecycle and the enterprise. We find that most retail customers are currently not satisfied with their omnichannel flow experience; therefore, this is a particular area that needs to be addressed.

The customer experience is also influenced by immersion. In a technology-mediated environment, *immersion* is the degree to which the user has a feeling of 'being there.' The two main concepts that characterize immersion are breadth (number of touchpoints) and depth (quality of the information conveyed across touchpoints, including visual, touch, and auditory senses). Previous research has shown a positive relationship between immersion and consumer learning and purchase intentions (Suh & Chang, 2006; Suh & Lee, 2005).

Additionally, information systems researchers have studied the importance of information-relevant and affective-relevant cues in determining customer behavior (Eroglu, Machleit, & Davis, 2001). We define *cognitive fit* as the ability of the digital technology solution to provide the relevant information and expertise to shoppers when they need it. For example, if a car shopper has specific questions regarding a car's performance in winter

Figure 1. Transforming the customer experience



weather, then the technology should be able to assist in answering those questions and not provide irrelevant information such as generic car performance information or content regarding a different car model. Emotional cues represent the ability of the technology solution to provide a mentally stimulating, enjoyable, and interesting experience to the user (Kohler, Fueller, Matzler, & Stieger, 2011). We define *emotional fit* as the ability of the technology to provide an aesthetically pleasing experience for specific shopping behaviors. Rich video and augmented reality solutions exist today that provide this capability (Scholz & Smith, 2016). For example, using augmented reality software, retailers can show buyers what they would look like wearing a specific piece of clothing or makeup, or what it would feel like driving a specific car.

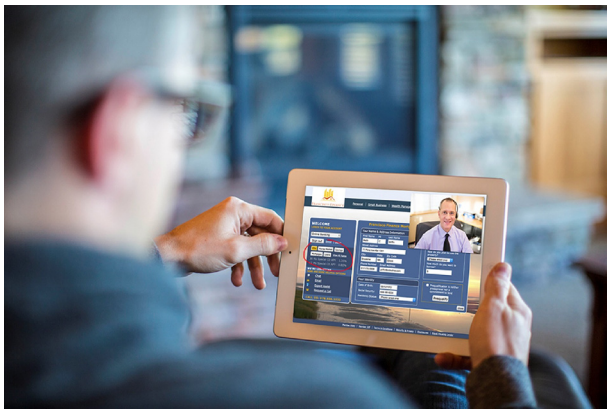
With numerous customer channels and touchpoints, a key success factor for the marketer is to determine where, when, and how an expert can add business value. Based on our research, we have identified two main types of virtual experts used by organizations that address the crisis of immediacy challenge: (1) the *remote expert* and (2) the *digital assistant*. For each model, the interplay between the brand or product expert, the consumer, and the digital technology is different. Under the remote expert model, the expert is in a different physical location from the consumer, and technology is used to mediate the live interaction between the product expert and the consumer. In a digital assistant setting, technology itself—in the form of an app or platform—provides the expertise to the shopper or employee, often when they are both in the same physical location (e.g., store). It is important to note that an organization may choose to deploy both models simultaneously, depending on its needs.

3. The remote expert

We have studied the use of remote expertise across many industries, including financial services, field-based services, and retail consumer products. A remote expert is a real person, located remotely, who is available for immediate service to the consumer or customer (see Figure 2). The employee can appear on a user-owned mobile device through video embedded into the retailer's mobile application or .com store front, or on an in-store high-definition screen through videoconferencing.

Retailers can use remote product experts to help consumers anytime during their pre-purchase to post-purchase journey. While live text chat leads to higher sales conversion rates, live video chat has the potential to elevate conversion to a whole new level due to the richness of immersion it provides the end user. Features such as co-browsing, screen sharing, and content sharing offer a level of interactivity that was not previously available. Recent research indicates that groups utilizing co-browsing technology have higher performance on metrics such as agent utilization rate and average revenue per call than groups that do not (Minkara, 2013).

Figure 2. Consumer talking to a remote expert



When video chat is employed during the consideration phase, consumers with product-specific questions can immediately contact and see a store expert who can answer product inquiries, explain different product options, and make product-specific recommendations. As one apparel retailer told us:

> Video chat changes the type of engagement. Before, we would get questions like: "Do you carry this brand and size and how soon will I get it?" Now, we are much more involved in the purchasing decision by showing and recommending specific apparel tailored to the consumer. Customers love this type of interaction and personalization since they feel as if they are actually in the store.

The remote expert can also be used to aid consumers who need immediate help in a physical store or branch location. This is especially beneficial regarding complex products or services that require consultation, interactivity, and knowledge sharing, when the self-help option is not sufficient for conversion. Specifically, we found that 26% of consumers will leave a bank if advisers and their personal advice are removed from the branch. Therefore, having a remote expert solution should help reduce revenue leakage (Ericsson, Farah, Vermeiren, & Buckalew, 2012).

We studied the impact of Cisco's Remote Expert solution, via which potential customers and branch

employees can discuss complex banking products such as mortgages and wealth management with a remote bank expert (Cisco, 2015). Remote Expert was deployed at the top 10 retail banks in the U.S. We discovered the following results:

- There were over a hundred calls per week per branch, averaging 22 minutes per call.
- There was a 69% increase in mortgage applications as compared to branches without Remote Expert.
- There was a 37% improvement in close rates over branches without Remote Expert.
- There was a significant improvement in cross-selling at Remote Expert locations as compared to those without the system.
- There was 100% customer satisfaction with the experience. All customers said that Remote Expert was an improvement over telephony (phone in branch connected to a contact center agent).

The initial response to remote experts by financial institutions has been positive. According to Martin Bischoff, Vice Chairman of Consumer Banking at Citizens Financial Group: "Video banking is an innovative banking solution that makes us more convenient than ever before in these markets by instantly connecting our customers with knowledgeable bank specialists and providing them with the tools to make financial decisions" (Gunn, 2011). In 2014, Nationwide Building Society deployed a mortgage service in over 60 of its branches throughout the UK. Called Nationwide Now, the solution provided customers with immediate in-branch access to remote mortgage consultants through a high-definition video link. Customer response has been very positive, with 94% of people who used the service indicating they found it a good or excellent replacement for face-to-face meetings (Nationwide, 2014).

Another category of benefits from using video connections to remote product experts has to do with risk reduction. Many industry sectors, such as financial services, have strict standards for regulatory compliance. Video sessions with a remote expert can record end-to-end touchpoints of the transaction. This is also a convenient way to keep track of all documents being signed and shared, reducing the likelihood of missing key handoffs and processes for legal requirements.

One specific use case of the remote expert model is the virtual concierge. We define a *virtual concierge* as a retail agent that provides immediate knowledge-based solutions customized to an individual consumer throughout his/her entire journey with the retailer. These services can be provided anytime and anywhere, and often involve multiple touchpoints and channels over time.

The virtual concierge is particularly relevant in sectors involving complex purchasing activities. For example, the Lincoln Concierge service, which is staffed around the clock, personalizes the shopping experience for consumers interested in Lincoln cars. The concierge will answer questions, help with car research, review and discuss model and price information, perform analyses of competing models, and schedule a dealer visit. The Lincoln Concierge is also available through different technology touchpoints, including video chat, instant messaging, and phone.

The Lincoln Concierge essentially acts as a broker between the shopper and the car dealership. It helps buyers transition from online research to the dealership experience, thus saving them time and effort. When the shopper walks into the dealership, the specific car he/she is interested in is ready for a test drive. Initial reaction to the service has been positive, as have its results: 3,315 car shoppers used Lincoln Concierge in January 2014, with 77% of those saying it had a positive impact on their decision to buy (Wisely, 2014).

The virtual concierge is also well-suited to the service and hospitality industries, where immediacy is paramount. Not only is this model beneficial in helping retailers make the sale, but it also aids in customer retention and advocacy as the retailer aims to build a long-term relationship with the customer. We interviewed representatives of a health fitness business that features fitness instructors as virtual concierges who offer virtual, personalized services outside of the gym. Live one-on-one and group exercise sessions are delivered via streaming video. The instructors are readily available to answer specific questions about a person's fitness routine through live chat. Instructors also deliver fitness and healthy diet content in the form of videos, newsletters, blogs, and websites. Virtual sessions do not replace regularly scheduled face-to-face sessions, but rather are complementary to those sessions, especially for regular customers who desire flexibility and convenience. This can lead to competitive differentiation. According to one gym member:

> I travel frequently for work, but I hate to miss my regular workouts. I enjoy the flexibility of having virtual workout sessions wherever I may be. I'll also send my instructor fitness data that I capture on my mobile app, such as miles run and calories burned, and he'll recommend what

type of running routes and exercises I should do next.

Finally, the remote expert model is a good fit in time-sensitive or crisis situations where the customer needs to immediately connect with the company. For example, Esurance, a car insurance company that sells directly to consumers online or over the phone, created a mobile app that allows clients to video chat with an Esurance appraiser by using a smartphone. This potentially eliminates the need for the appraiser to inspect the car in person, resulting in saved time and faster claims processing.

3.1. Managerial implications

So, when should organizations use a remote expert model? The product fit equation is critical. The remote expert is ideal for complex products that require immediate expertise and advice, such as wealth management and car/home purchases. Our research indicates that video is a key enabler of building trust in situations where employees are not physically available. However, commoditized products such as bill payment do not require this type of approach. The consumer easily learns about this service from a secondary source, such as a website.

According to our research, effective organizations map out the multiple touchpoints in their customers' journeys and determine where and when remote product experts are needed. For some marketers, this may be during the product awareness and consideration phases; for others, during after-purchase (e.g., product support). Since the remote expert can service the customer at any point in his/her purchase journey, it is ideal to have the customer analytics capability to analyze data across multiple touchpoints. This includes transactions or interactions between the consumer and brand at the physical store, website, social media platforms, and mobile devices. The organization is then able to use predictive analytics to make personal recommendations. Understanding the customer's intent and determining which touchpoints work well in different use cases is critical to improving flow success (i.e., easy user navigation across touchpoints), which is necessary for an ideal customer experience.

Customer personas enable organizations to view and see their products and services from the customer perspective. With respect to omnichannel use, customer paths to purchase vary, depending upon the different and unique personas. Marketers need to segment customers by their use cases in addition to traditional demographic and generational differences. For example, a home improvement store might create two personas: (1) the young couple buying their first home, a fixer-upper; and (2) the retired couple downsizing into a condo. The type of virtual expertise and delivery methods required will likely vary significantly between these two personas, and the retailer can customize its remote expert solutions for each customer type.

Retailers should develop metrics to determine the success of their remote product experts. In particular, customer satisfaction—including attitudes such as trust, level of comfort with video communication, and ease of use—and outcome measures—such as conversion, cross-selling, leakage, and return visits—should be included.

Several challenges are associated with the remote expert model. One of the main hurdles entails coordinating the remote experts so they are available to serve shoppers on demand. Adequate staffing is essential, especially during peak shopping periods. Promising a live agent to answer questions but not delivering will damage the customer experience and the brand reputation of the company. Shoppers should also be directed to interact with the right remote expert, depending on their needs and information requirements (i.e., cognitive fit). Setting up a system via which on-site staff, or even the buyers themselves, can input a shopper's profile and request form—which then directs them to the best available expert—is an effective practice. Video technology is also a critical aspect of the remote expert model. On the shopper's side, today's smartphones and laptops come with increasingly powerful cameras and video software, making this type of solution popular. On the retail side, the cost to scale videoconferencing systems, large-screen, high-resolution displays, and bandwidth across physical stores, branches, and sites continues to come down, making the remote expert model feasible. Often, a store or branch will have a dedicated room or space set up to deliver this solution in a noise-free, private environment.

4. The digital assistant

Many of today's shoppers have used voice digital assistants on smartphones—such as Apple's Siri, Android's Google Now, and Window Phone's Cortana—to help them search topics and perform day-to-day tasks. Organizations are currently taking mobile apps to the next level in order to build a personalized, immersive customer experience. Shoppers may now use their smartphones to perform price comparisons, gather product information on the Internet, and scan QR codes to look up prices. Increasingly, retailers are developing their own mobile apps as part of a digital assistant strategy to provide instant service to the

consumer. For instance, apps can be used to reward loyal customers by targeting promotions, delivering coupons that can be scanned at checkout, and offering time-sensitive deals.

An effective mobile app does not mimic the retailer's website, but rather personalizes the experience for the consumer. Retailers emphasized to us the importance of app functionality as an exploration tool for shoppers to gain additional product insights. This includes new product arrival information and demo videos, integrating with social platforms to allow users to comment on and mark products as 'favorites,' and connecting with a knowledge base to search product items/features and to ask questions. For example, we talked to hotels that are using their own mobile apps to provide personalized services before, during (e.g., restaurant recommendations, entertainment reservations), and after a customer's stay.

To reach the next level of immediacy and personalization, retailers are starting to roll out location-based apps and services in order to deliver customized content to shoppers in the store or branch. Location-based services use beacon sensors—devices equipped with Bluetooth technology—to transmit data with other mobile devices and beacon sensors within a close proximity. Other technologies (e.g., GPS, Wi-Fi) can also be used to determine location, but Bluetooth seems to have the advantage in terms of low energy consumption, low cost, and high accuracy within the store location.

Location-based apps can be used by retailers to perform geolocation, targeted messaging, and customer analytics. Beacon services have the ability to micro-target individual shoppers. Retailers can determine exactly who and where individual shoppers are as they enter and walk around the store, and can send them personalized messages on their smartphones as they stand in front of a particular product or aisle—all at a moment's notice. While still in the pilot stages of deployment, these beacon-based solutions offer great potential since they feature high content-in-context to spur impulse buying.

Consider jewelry store chain Alex & Ani, which is rolling out a beacon solution across 40 of its stores. Beacon-based marketing company Swirl is providing Alex & Ani with the beacons, app, and marketing dashboard via which the retailer can track its customer data. About 30% of individuals who saw one of Alex & Ani's promotions visited a store, with an actual purchase percentage in the high teens (Lapowsky, 2013). According to Swirl, 72% of consumers said that a relevant mobile offer delivered to their smartphone while shopping in a store would significantly influence their likelihood to make a purchase (Zaso & Faulder, 2013).

Under the digital assistant model, retailers have the ability to acquire behavioral data on shoppers, including which products they are interested in, when and where they purchase inside the store, and what types of content lead to conversion. Retailers can also capture macro data such as peak shopping times, checkout line length, and the relationship between product sales and product placement in the store. Ideally, in order to send personalized content to shoppers' smartphones, the retailer will need to know their transactional history (from multiple channels), their product preferences from social platforms, and their mobile app usage.

Retailers and branches can also reinvent their physical space through the use of in-store augmented reality (AR) helpers. AR can be employed in many forms, such as touch-screen recommenders, virtual mirrors, and in-store product videos. We conducted a large-scale survey of U.S. shoppers and found that 71% of respondents want access to in-store digital content, 85% would prefer self-serve in-store digital access, and 70% believe a personalized experience (e.g., service, advice, offers) would encourage them to make more purchases (Cisco, 2013).

Our research shows that emotional triggers are one of the key reasons behind shoppers' return visits to a store and loyalty to a retail brand. What provides these emotional triggers are personalized experiences, content-in-context, and highly immersive engagement with products. For example, the fashion house Burberry surrounds its stores with full-length screens that display audio-video content as well as live streaming events, such as fashion shows. In addition, RFID chips are secured onto individual pieces of clothing, and when these items are brought into a dressing room, product-specific content—such as the craftsmanship of the handbag, or video of a model wearing the outfit—appear on a screen in the room (Indvik, 2012). All of this technology-delivered content in real time helps build a narrative behind the product, resulting in a closer connection between the consumer and the brand.

Likewise, retailers have been testing and implementing virtual mirrors in their stores for the past few years. Typically, the consumer stands in front of the digital mirror, which takes pictures of him/her—sometimes at different angles. Mapping recognition software renders an image of the shopper on the mirror. Using hand gestures or touch screens to select different options, the user can choose apparel to 'try on' without going to the dressing room. Oftentimes, there are other options to see videos of the product as well as its availability in the store. The image can be saved and shared immediately on social platforms or via email to prompt reactions

from the shopper's family and friends. One retailer told us: "Virtual mirrors provide the consumer with an immersive experience. It's fun for them, and something they'll remember. They like that they can experiment with different product options and recommendations."

Recently, L'Oreal Paris released an innovative app called Makeup Genius, which lets shoppers see how they would appear wearing different beauty products, all without actually physically buying and trying. The app takes a sophisticated scan of the user's face with a front-facing camera and then renders the image on the screen. Makeup Genius allows users to see what they would look like, from different angles and with varying facial expressions, with the makeup on (Gilbert, 2014).

Finally, on-site digital assistants can aid salespeople as well as consumers. In these situations, the salesperson's role shifts to more of a customer advisor capacity. Recently, BMW hired 500 product Geniuses: customer advisors who explain car features to shoppers, but do not sell. The Genius's role is to build trust and provide personalized knowledge to the customer in the showroom. Digital technology is critical. Customers can build and configure their car using an iPad application, which can then be shown on large screens. Using this information, the Genius can answer questions and make recommendations. BMW views the customer experience as a key differentiator and plans to hire more Geniuses in the upcoming years (Kurylko, 2015).

4.1. Managerial implications

Retailers indicated several factors that are associated with successful use of the digital assistant model. First, the technology has to be easy to operate/manipulate. While AR technology can certainly generate the wow factor and help the retailer close the sale, it could also lead to a negative customer experience if the consumer wastes 30 minutes of his/her time trying to figure it out. Retailers should continuously measure users' satisfaction with AR models via short surveys or interviews to understand how these technologies are impacting the shopping experience. Second, the role of store staff may need to change. They certainly need to be able to help shoppers use these in-store technologies. But, they also need to act as advisors and curators to shoppers by giving them advice on how they look in specific products and providing them with different options. Finally, AR benefits can extend into customer analytics. If shoppers agree to opt-in with their store account login, the retailer can determine categories of customers using AR technology—which can recognize gender—and consider the types of clothes they have previously purchased, then make recommendations while the shoppers are in front of the mirror.

Our recommendation for retailers just starting out with their own mobile apps is to start slowly. Make sure the mobile app is easy to use and consumers can find what they are looking for. Begin with basic functionalities such as product availability, information, price comparisons, and reviews. After these are mastered, then consider more complex functionalities such as virtual payments/checkout, loyalty programs, and location-based solutions.

Several retailers/vendors we spoke with said they undertook a build-and-learn iterative approach to mobile app development, using agile methodologies. The key is to have a business person/marketer work side-by-side with the app developer to give continuous feedback on functionality and interface design. Have 'uber-digital' customers be early adopters and test the app so they can provide initial feedback. Even after release, retailers should be prepared to continuously add functionalities and change the interface to improve future versions of the app.

Obviously, shopper privacy is a major concern with location-based apps. Retailers need to manage the user-value-versus-privacy tradeoff. Our research shows that 78% of shoppers are willing to share with the retailer certain types of personal information (Cisco, 2013). A transparent user opt-in approach detailing how individual data will be used is an effective practice. Retailers need to prove to their shoppers that by providing the store with individual data, such as their in-store behavior, shoppers will receive value in return in the form of personalized product information and offers. The retailer also must communicate clearly if any user data will be shared with third-party marketers, and if so, that it will be done at an aggregate level so individuals cannot be identified.

5. Conclusions

We are living in a customer-driven world, where the informed customer—not the retailer—can dictate much of the desired content. No longer can retailers be passive observers and hope their product content finds the right shopper. Today, retailers must be able to serve consumers with immediate and personalized content, anytime and anywhere. Current strategies around the virtual expert—delivering an immersive, personalized shopping experience; improving flow among consumer touchpoints; and providing content that has emotional and cognitive fit—have the capability to provide this level of service.

Table 1. Two main types of virtual expert solutions

Virtual Expert	When To Use	Success Factors
Remote Product Expert	• In in-store cross-selling of complex products that requires consultation, interactivity, and knowledge sharing. • Online to support customer acquisition and service of complex products. • With work processes involving multiple handoffs that need to be recorded for compliance. • When the goal is to build long-term, close relationships with customers to generate high customer lifetime value. • In service and hospitality industries, where it is ideal. • In situations when a personalized broker is needed between customer and end-retailer.	• Leverage live video, co-browsing, screen sharing, and content sharing. • Map out touchpoints in customers' journeys to determine where and when a remote product expert is needed. • Determine the right metrics, from customer satisfaction to conversion. • Deliver using multiple touchpoints. Give the customer options. • Leverage customer analytics across multiple touchpoints. • Develop customer personas to customize touchpoint flow.
Digital Assistant	• When emotional triggers are needed to generate in-store engagement with shoppers. • With in-store products that shoppers can 'try on' using augmented reality (AR) for personalization and convenience. • With in-store products that have an interesting narrative that can be told through AR. • In location-based apps to micro-target individual shoppers and spur impulse buying. • To make it easy for customers to get product information (e.g., availability, price comparisons) while in the store. • To build up customer analytics by understanding shopper in-store behaviors.	• Make AR technology easy to use. • Train store staff to help shoppers with AR use. Staff should act as advisors and curators. • Make AR output easy to share across multiple channels, such as social media. • Start slowly. Build up mobile app functionalities over time. • Use a build-and-learn iterative approach to app development. • Manage the user-value-versus-privacy tradeoff with transparent opt-in policies.

The remote expert and digital assistant models provide two approaches for organizations to pursue in this regard (see Table 1). Organizations that lead the effort in solving the crisis of immediacy stand to gain differential advantage in delivering a rich customer experience in an increasingly competitive digital and physical retail space.

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