Leveraging the Power of Branded Apps: An Exploratory Study of Salient Performance

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Branded mobile apps are applications developed by companies that carry the names of the organizations and their logos. Consumers personally select and download these apps. They encounter them multiple times as they scroll through their smartphones during the course of the day. Branded apps are like billboards on personal smartphones. They represent significant potential to marketers to reach and engage with their consumers. The question of what service attributes to include in the branded apps remains unclear. This research identifies key factor dimensions of branded mobile apps and examines their impacts on satisfaction and quality of shopping experience in hybrid stores and exclusively online retailers. The findings contribute toward an understanding of BrandApp-Qual and has managerial implications.

INTRODUCTION

Smartphones are mobile telephones that incorporate computer capabilities and connectivity. The operating system is supported by third party applications developed by a large and active developer community. These mobile applications are commonly known as mobile apps or simply apps. Smartphones have become ubiquitous. The penetration rate of the smartphone as a percentage of the population in the United States has risen from 20.2% in 2010 to 59.3% in 2015. Apple leads with 43.6% of smartphone subscribers, Samsung ranks second with 28.5%, LG lags at 9.6%, and Motorola and HTC have 5% and 3.2% respectively. In 2015, 1.42 billion smartphones were sold worldwide (Statista, 2016).
The mobile app industry has grown at an exponential rate. In June 2016, Google Play Store (formerly Android Market) and the Apple App Store had 2.2 and 2 million apps available respectively. Mobile app revenue reached $41.1 billion in 2015 and is targeted to reach $101 billion in 2020 (Barnett, 2012; Welch, 2013). Apps are defined as end-user software applications designed for a mobile device operating system

that extends that device's capabilities (Board of Governors of the Federal Reserve System, 2014). Generally, apps enable consumers to perform functions that fall into five categories: namely, experiential functions (games and entertainment), social functions (social networking such as Facebook), utilitarian functions (maps, emails, calendars), search functions (such as Yelp and Tripadvisor), and shopping functions (such as Wanelo or Urban Outfitters).

Mobile apps are software that consumers personally select and download into their smartphones. By doing so, consumers view them as non-intrusive, value their functions and interact more engagingly with them (Hutton & Rodnick, 2009). Consumers download an average of 36 apps to their mobile phones (Tiongson, 2015). They spend more than 88% of their app time on just five downloaded apps. In addition, they spend about 82% of their smartphone time with apps and just 16% with web browsers (Husson, 2016). Marketers have been slow to recognize smartphones as a powerful communications platform and slower to leverage the potential of apps as a newer mode of engaging consumers. Their initial foray into the smartphone platform had been through mobile ads on magazine or game apps that were too small, cumbersome to load and ineffective in engaging consumers (Gupta, 2013).

More recently, marketers have developed branded apps. Branded apps are defined as mobile applications that are developed by companies and carry the names of the organizations and their logos. Examples are Polyvore, Urban Outfitters and Wanelo. Branded apps represent a significant opportunity for marketers. These apps are a form of advertising. Consumers select and choose to download them. They encounter them multiple times as they scroll through their smartphones during the course of the day. Branded apps are like billboards on personal smartphones. Because the apps are downloaded by consumers, they provide a non-intrusive way of providing value and engagement with consumers. A significant percentage of major companies have developed branded apps. However, more than 90% of them have fewer than 10,000 downloads, leaving no doubt that consumers find their functions less than useful (Lella, Lipsman & Martin, 2015).

There is a significant amount of research directed toward understanding the impact of new digital media (Balasubramaniam, Peterson & Jarvenpau, 2002; Mort & Drennan, 2002; Nysveen, Pedersen & Thorbjornsen, 2005). Mobile apps, though simply a new platform for communicating with consumers, are perceived by researchers as a new technology. As such, there is a body of literature that examines the diffusion of apps using models such as the technology acceptance model and the unified theory of user acceptance and use of technology model (Bellman et al., 2011; Yang & Forney, 2013). However, there is a dearth of research that examines key attributes of branded mobile apps and the impact of their performance on satisfaction and quality of the shopping experience—such research would be important to assist managers in their attempts to design more effective branded apps. A recent study conducted by the IBM Institute of Business Value (2014) finds that few chief marketing officers "made much progress in building robust digital marketing capability" especially in this area; 82% felt "unprepared" to handle the surge of change and data. Hence, this paper identifies and examines the impact of app attributes on satisfaction with the branded app and perceived quality of the shopping experience.

App requirements and features will likely differ between online and hybrid "click-and-mortar" retail companies. An online retailer is one that operates only in the digital space, whereas a "click-and-mortar' retailer operates in both the digital and physical settings. The question of how app requirements differ between these two channels remains unanswered in the literature. Therefore, this research further examines the relative importance of brand app features between these two retail contexts. The industry chosen for the study is the fashion apparel industry. This is a highly competitive industry for both online and hybrid retailers. Fashion apparel is also a frequently purchased item. A study by Nielsen indicates that 70% of Americans had purchased apparel in the last six months and that shoppers in the U.S. engage in apparel shopping on a "regular and frequent" basis (Nielsen, 2016).

This paper is divided into six sections. The next two sections discusses the evolution of mobile apps and provides a literature review. This is followed by a description of the methodology, results, discussion and the conclusion.

Evolution of Mobile Apps

Mobile applications before 1993 consisted of basic Java software applications designed to fulfill utilitarian functions such as calculators, calendars and simple games. This period prior to 2007 is marked by the emergence of many new mobile devices with different operating systems. For example, in 1993, Newton Message Pad was launched. Designed and built by Apple, it contained built-in applications for email, calendars, address book and web browser. Palm OS was launched in 1996 and Nokia 6110 in 1997. The year 2007 marked the start of a revolutionary change in the industry. The introduction of Apple's iPhone changed this industry and the ways consumers communicated (Yang, 2013). Launched in June 2007, the iPhone is recognized as one of the most successful new product introductions in history. Over 270,000 units were sold in the first 30 hours (Apple Press Release, 2007). However, it was the highly successful three-prong business concept of the iPhone that is responsible for its profound disruptive force. The first prong was the launch of a high quality product with vastly expanded capabilities. The second was to facilitate the expansion of the mobile device capabilities by offering a form of open-source development in which independent developers were free to design applications specific to the device. Apple announced in June 2007 that independent developers could create any application using Web 2.0 which "look and behave just like applications built into the iPhone and which can seamlessly access iPhone services" (Apple Press Release, 2007). The third prong was to provide a retail hub for the purchase of these apps. In July 2008, the Apple App Store debuted with its first 552 apps, 135 of which were free. Within a week of launch, 10 million downloads were recorded by the store (Cohen, 2008). This is, in essence, the realization of Steve Jobs' prediction at a conference in Aspen when he envisioned a new system to distribute software applications. He likened it to a record store where people can buy any application they wanted over a phone line.

In October 2008, Google launched the Android Market becoming the second major distributor of mobile apps. It was renamed in 2012 to Google Play Store and reached 50 billion downloads in July 2013. Blackberry World launched in April 2009 and was the third major distributor. The behemoth Amazon entered the market in March 2011 and has been able to reach its vast customer base with its Amazon App Store. Facebook and Angry Bird remain some of the most downloaded free and paid apps respectively (Cheshire, 2011; Eadicicco, 2015).

Perhaps the best testament that an object has woven itself into the fabric of our lives is when its name becomes part of the accepted nomenclature of the culture. In January 2011, app was voted "Word of the year 2010" by the American Dialect Society at its 21st annual word of the year vote. They defined "app" as a noun, meaning "an abbreviated form of application, a software program for a computer or phone operating system" (American Dialect Society Press Release, 2010).

LITERATURE REVIEW

The mobile app is a relatively new innovation. As such, the marketing research literature associated with it follows a similar pattern to its diffusion into the marketplace. Early studies tended to be conceptual and often non-empirical. They examined the implications of mobile services and commerce on marketing and marketers (Watson et al., 2001, Balasubramaniam, Peterson & Jarvenpau, 2002; Mort & Drennan, 2002; Nysveen, Pedersen & Thorbjornsen, 2005). A stream of research discusses the implications of mobile apps on the consumer search process, pricing and competition. These studies are associated with apps that facilitate the ability to compare prices, access product reviews and evaluate the quality of merchandise and services. As such, they facilitate the consumer search process and create efficiencies that result in greater transparency in price competition and brand competitiveness (Shankar & Balasubramanian, 2009; Shankar et al., 2010; Hendrix, 2014). Other apps are particularly designed to facilitate the marketers' connection with consumers through advertising, messaging and value added services. Research shows that they have the potential to increase loyalty among customers (Liu, et al., 2012; Gupta, 2013; Im & Ha, 2015; Slade, et al., 2015).

Another stream of literature focuses on documenting the consumer adoption of mobile commerce and services. Mahatanankoon (2005) examined the perceptions of consumers about mobile services. Liang et

al. (2007) examined mobile technology adoption in business and Bomhold (2013) measured mobile app usage among undergraduate students. Her findings indicate that provision of mobile support by universities for their students is uneven among Carnegie schools thus indicating that the adoption of this technology in higher education is still in its infancy. Nysveen et al. (2005) used a comprehensive model to predict consumer use of mobile services in Norway. Their approach combined gratification theory with the theory of technology acceptance models and consumer's need for expressiveness. Ha et al. (2012) documented consumers' use of mobile banking. They find that risk factors are important considerations for consumers choosing to make payment using mobile apps. Starbucks and McDonald's mobile payment apps remain two of the more popular mobile payment applications.

Mobile apps are viewed as a new technology. As such, there is a small body of literature associated with its adoption. Verkasalo (2010) examined the adoption of apps among users and non-users and Lee (2010) used perceived gratification perspective to examine consumer adoption of apps in Europe and Asia respectively. These studies used the technology acceptance model (TAM) or the unified theory of user acceptance and use of technology (UTAUT) model to explain the antecedents of consumer adoption. Kim et al. (2013) studied the relationship between attachment to apps and adoption although the branded mobile app was not the focus of the study. To deepen understanding of consumer adoption, Yang (2013) included psychological motives and consumer demographics. He combined the theory of planned behavior, TAM and gratification theory to predict consumer attitude and adoption of mobile app in the United States.

The branded app is a relative newcomer to the large array of app choices. Branded apps are applications developed by companies to perform specific functions strategic to their organization. They display prominently their brand names and logos in the names of the apps and throughout the user experience. For example branded apps of Urban Outfitters, Target and Wanelo showcase their products, engage their customers in different ways and includes an option to purchase items. There are fewer studies examining branded mobile apps. Peng, Chen and Wen (2014) examined branded app adoption and found that brand relationship defined by brand identification and attachment are significant factors in the adoption of these branded apps. Bellman et al. (2011) in their research on branded apps find they have the potential to increase interest in the brand and the brand category. They assert that branded apps that are focused on providing consumers with brand information are more effective in shifting purchase intentions towards that brand than those that are focused on entertainment such as games. However, there is a dearth of research connected to investigating the salient attributes that consumers require in their branded mobile apps. Therefore, this paper investigates key branded mobile-app features and dimensions and their impact on satisfaction and quality of shopping experience in the context of the retail fashion industry. Given that consumers delete apps that do not meet their needs after only one use, the focus of this research is timely (Google, 2015).

METHODOLOGY

A questionnaire was developed based on the outcome of focus groups, whose members were students of a university in the northeast and frequent users of mobile apps. Results of the focus group discussions showed that fashion mobile app users were interested in obtaining information about the product, viewing the product in multiple ways, interacting with the organization, experiencing the product virtually, and easily navigating and purchasing items. This is congruent with the taxonomy put forward by Magrath and McCormick (2012) who identified four areas important to the fashion industry: namely, multimedia product viewing, product promotion, consumer-led interaction and informative content. The items were reviewed with experts in the fashion industry and the final set of 20 service attributes covered the areas of purchase, navigation and use, information, connectivity with the company in the form of style guides and with other consumers through reviews, appearance of content on the app and cost of the app.

Data was then collected from a sample of university students in a northeastern university. Respondents owned smartphones and were frequent users of mobile apps. A total of 100 completed questionnaires were used for data analysis. Though there are limitation in using students as respondents,

Compeau et al. (2012) provide evidence that students have been effective respondents in computer technology studies for more than 20 years. University students rely more heavily on mobile apps than the internet to achieve their daily tasks. Furthermore, the 18–24 year-old demographic invests the most time on apps, spending an average of 90.5 hours per month or 1086 hours per year (Bowen and Pistilli, 2012; comScore, 2015). According to Champeau, if students are a segment of the target population under study, then studies using student samples can make generalizable statements about the research findings (Compeau et al., 2012). Respondents rated how important it was to them that mobile fashion apps had these 20 performance attributes on a 1 to 7 point scale, with "1" indicating that it was very unimportant and "7" denoting that it was very important. Respondents were then instructed to download one of the branded mobile apps under study. They were instructed to spend some time "interacting with the app in the same way as they would if they were browsing, shopping and purchasing." After completing this branded app interaction, respondents were asked how they felt that app performed on each of the 20 performance attributes. This sequence of instruction was conducted for the "pure" online mobile fashion app (Wanelo) and the hybrid ("click-and-mortar") mobile fashion app (Urban Outfitters).

RESULTS AND DISCUSSION

Identifying the Salient Dimensions

The underlying performance dimensions demanded by consumers are uncovered by factor analyzing the importance ratings of the 20 service attributes. Exploratory factor analysis is the procedure for summarizing the information ratings on the 20 attributes into a smaller number of dimensions, which then can be identified as the dimensions underlying the respondents' ratings. The analysis extracted factors that had eigenvalues of more than one. Five factors are extracted using this criterion accounting for more than 73% of the variance. The results of the factor analysis after applying the varimax rotation procedure are summarized in Table 1.

The first factor relates to the ability to create outfits and style collages with clothing and accessories, upload photos of personal clothing items to create a virtual online closet, customize wardrobe according to body measurement, obtain personalized product recommendations and have style options with personalized advice and information about the latest trend. These attributes pertain to the customization of the retailers' products and integrating them into their existing wardrobe. As such this factor is labelled Personalization & Customization (P&C).

The second factor relates to the provision of information in the form of product reviews and ratings by other customers, color display of products that can be altered to other color options, book or catalog of products, detailed product descriptions, links to the company's social network and the ability to create a wish list for favorite items. These attributes pertain to the provision of relevant information and the second factor is therefore labelled Informative.

TABLE 1
FACTOR ANALYSIS OF SERVICE ATTRIBUTES

Attributes	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Create outfit and style collages with clothing & accessories	0.886				
Upload photos of your personal clothing items to create a virtual closet	0.879				
Style options with personalized advice and information about latest trends	0.868				
Personalized product recommendations	0.847				
Customize wardrobe according to body measurements	0.851				
Has trending section of other customers' favorite items	0.772				
Product reviews/ratings by other customers		0.749			
Display of products can be easily switched to multiple color options		0.730			
Catalog of product items directly accessible		0.689			
Detailed product description		0.677			
Wish list for favorite items		0.598			
Has links to company's social network		0.574			
Has trendy/stylish design: layout & organization			0.904		
Has trendy/stylish design: font/typeface			0.879		
Has quick load and response time			0.682		
Free to download and use				0.932	
Easy to navigate				0.909	
Has good security/privacy policies					0.776
Has easy checkout process/one-click purchase options					0.725
Has free shipping					0.624
Factor Labels	Personalization And Customization	Informative	Pleasing Interface	Ease of Use	Ease of Purchase

The third factor captures the visual quality of the product as seen on smartphones and relates to a trendy and stylish design in the layout and organization of the app, the typeface and font. It also captures the need for a quick load and response time. These attributes relate to how the application interfaces with the user and as such the third factor is labelled Pleasing Interface.

The fourth factor captures ease of navigating and using the application as well as the free accessibility of the app for download and use. This factor is labelled Ease of Use.

The fifth factor captures the purchase process. Attributes include the need for good security and privacy policies, easy check out with one click purchase options and free shipping. This factor is therefore labelled Ease of Purchase.

Impact of Performance Dimensions on Satisfaction and Quality of Shopping Experience for Online and Hybrid Retailer

These performance dimension scales for both the hybrid and online retailers were subjected to a regression analysis with satisfaction and the quality of shopping experiences. Satisfaction is measured by the respondent's evaluation of their satisfaction with the app ("I am satisfied with the functions and

features that this app has"). The quality of shopping experience is measured by the respondents' overall evaluation of that experience with the app ("This fashion app provides an excellent shopping experience"). Responses were captured on a 7-point scale ranging from "1" for strongly disagree to "7" for strongly agree.

Results of the regression analysis with branded app satisfaction as the dependent variable is presented in Table 2.

TABLE 2
REGRESSION OF DIMENSIONS OF QUALITY ON SATISFACTION WITH APP

Performance Dimension	Satisfaction with App			
	(A.) Hybrid Retailer+		(B.) Online Retailer ++	
	Parameter Estimate	t-value	Parameter Estimate	t-value
Personalization/Customization	-0.118	-1.19	-0.216	-2.34**
Informative	0.206	1.73*	0.254	2.54**
Pleasing Interface	0.248	2.04**	0.178	1.67*
Ease of Use	0.078	0.608	0.256	2.68**
Ease of Purchase	0.000	0.002	0.088	0.90

* Significant at the p=0.1 level; ** Significant at the p=0.05 level; + r-square=0.22; ++ r-square=0.41

The results for the hybrid store and the online store are presented in Columns A and B respectively. All performance dimensions, with the exception of P&C are positively related to satisfaction. This means that higher levels of these performance dimension leads to higher degrees of satisfaction. The unexpected result of the negative relation found with P&C will be discussed more fully in a subsequent section of the paper. Results in the hybrid retailer analysis, indicated that only the performance dimension of Pleasing Interface and Informative were significant at the p=0.05 and p=0.1 level respectively. While the results for the online only retailer shows that the performance dimensions of P&C, Informative and Ease of Use are significant at the p=0.05 level. In addition, Pleasing Interface is significant at the p=0.1 level. R-square is found to be 0.22 and 0.41 in the hybrid and online only retailers respectively. These ranges of R-square values measuring the variance explained by the independent variables is not uncommon in research associated with social science and human behavior (Netter, Wasserman & Kutner, 1990).
The regression results of the performance dimensions on quality of shopping experience is presented in Table 3.

TABLE 3
REGRESSION OF DIMENSIONS OF QUALITY ON QUALITY OF SHOPPING EXPERIENCE

Performance Dimension	Quality of Shopping Experience			
	(A.) Hybrid Retailer+		(B.) Online Retailer ++	
	Parameter Estimate	t-value	Parameter Estimate	t-value
Personalization/Customization	-0.128	-1.38	-0.232	-2.52**
Informative	0.243	2.15**	0.281	2.71**
Pleasing Interface	0.338	2.94**	0.196	1.84*
Ease of Use	0.033	0.273	0.192	2.01**
Ease of Purchase	0.020	0.179	0.111	0.261

* Significant at the p=0.1 level; ** Significant at the p=0.05 level; + r-square=0.31; ++ r-square=0.41

As with app satisfaction, all performance dimensions, with the exception of P&C, are positively related to the quality of shopping experiences. Thus indicating that mobile apps with higher performance on these dimensions will elicit higher quality of shopping experience. In the hybrid retailer context, both performance dimensions of Informative and Pleasing Interface are significant at the p=0.05 level. For the online retailer P&C, Ease of Use and Informative are significantly related to the respondents' evaluation of the quality of the shopping experience at the p=0.05 level while the performance dimension of Pleasing Interface is significant at the p=0.1 level. R-square results are 0.31 and 0.41 in the hybrid and online contexts respectively.

Gap Analysis

To further understand the managerial implications of the effects of service attribute performance, a gap analysis is conducted. Performance in each of the five service dimensions is weighted by its importance rating. Table 4 shows the mean importance ratings of the service dimensions and the weighted performance for the hybrid and online retailers.

TABLE 4
COMPARISON OF WEIGHTED PERFORMANCE ON SALIENT FACTOR DIMENSIONS (T-TEST)

Performance Dimensions	Mean Importance Ratings	Weighted Performance	
		Hybrid	Online
Personalization/Customization	4.98	12.00	14.90**
Informative	5.75	32.53	30.89**
Pleasing Interface	6.36	41.26	41.31
Ease of Use	6.84	45.07	46.05*
Ease of Purchase	6.48	36.85	31.58**

* Significant at the p=0.05 level; ** Significant at the p=0.01 level.

The three service dimensions of Ease of Use, Ease of Purchase and Pleasing Interface exhibit the highest weighted performance. P&C exhibits the lowest compared to all the other service dimensions. Results of the t-test indicates that the online retailer performs significantly better than the hybrid retailer in P&C (p=0.01) and Ease of Use (p=0.05). On the other hand, the hybrid retailer performs significantly better than the online retailer in the area of being Informative (p=0.01) and Ease of Purchase (p=0.01).

In order to understand how each attribute of a service dimension performs, weighted performance is obtained for each variable. The results for both types of retailers are exhibited in Table 5. Online retailers depend on a single channel to sell their products. As such, they need to provide salient information and make purchasing easy. The previous analysis indicated that the hybrid retailer outperforms the online retailer in these two area. Looking at specific service attributes that are captured in the dimension Ease of Purchase, the online retailer performs significantly worse than the hybrid retailer in the variable pertaining to having an easy checkout process/one click purchase option (p=0.01) and in having free shipping (p=0.01). Looking at the specific service attributes that are captured in the dimension of Informative, online retailers again perform significantly worse in the variable pertaining to having product reviews/ratings (p=0.01) by other customers, changeable color display of products and detailed product description (p-0.05). This highlights clearly shortcomings that need to be addressed in the mobile app functions of the online retailer.

The dimension P&C consists of 6 attributes, three relates to customization and the remaining to personalization. These service attributes of the P&C dimension, with the exception of having a trending section of other customers' favorite items, exhibit the lowest scores for both retailers. Personalization relates to the degree to which communication is based on customer knowledge or knowledge of referent peers who may be influential. Customization, on the other hand, relates to product adaption based on

personal preference and needs and is captured by the attributes of uploading photos of personal clothing item to create a virtual closet, customizing wardrobe to body measurements and creating outfits and style collages with clothing and accessories. An examination of the mobile apps of these retailers indicate that they have limited ability to perform these functions. The regression results indicate that this lack of performance in both the hybrid and online retailer context does not have a concurrent downward pressure on the rate of satisfaction and quality of shopping experience. Instead, congruent with multi-attribute theory, all other performance dimensions seem to be able to compensate for this shortfall (Ajzen, 1991). Future research would need to better define the customization service attributes.

TABLE 5
COMPARISON OF WEIGHTED PERFORMANCE OF RETAILERS ON SERVICE ATTRIBUTES (T-TEST)

Attributes	Weighted Performance of Retailers	
	Hybrid	Online
Create outfit and style collages with clothing & accessories	11.39	12.44
Upload photos of personal clothing items to create a virtual closet	9.37	9.45
Style options with personalized advice & advice on latest trends	11.41	12.71
Personalized product recommendations	10.01	11.31
Customized wardrobe according to body measurements	10.18	9.54
Has trending section of other customers' favorite items	19.62	33.96**
Product reviews/ratings by other customers	36.72	34.84**
Display of products can be easily switched to multiple color option	39.78	36.02**
Catalog of product items directly accessible	30.53	29.25
Detailed product description	40.30	37.47**
Wish list for favorite items	35.13	35.84
Has links to company's social network	12.71	11.90
Has trendy/stylish design: Layout & organization	40.62	39.98
Has trendy/stylish design: Font & typeface	40.20	39.10
Has quick load and response time	42.69	44.56**
Free to download and use	46.86	46.99
Easy to navigate	43.27	45.10**
Has good security/privacy policy	38.58	37.23
Has easy checkout process/one-click purchase option	40.80	37.60**
Has free shipping	31.16	19.90**

** Significant at the p=0.01 level

CONCLUSION

The findings of this study indicates that hybrid retailers with an online presence need to ensure that their branded mobile app performs well in having a Pleasing Interface and be Informative. These have a significant impact on satisfaction with the app and with the quality of the shopping experience. Shoppers of hybrid retailers have multiple channels to purchase their apparel. Research indicates that though more than 80% of shoppers purchase their apparel in a physical store, most consumers use the mobile and online platforms as a source of information (Nielsen, 2015). Hence, the need for these branded apps to

provide the performance dimension of Informative and Pleasing Interface. Alternatively, research also find that consumers may use the physical store as showrooms of apparel and ultimately make their purchases through their mobile or online platforms (Nielsen, 2015). Hence, the importance of the performance dimension of Ease of Purchase to facilitate the sale of products.

For the online only retailers, managers need to ensure their mobile app performs well in being Informative, have a Pleasing Interface and be easy to use navigate and use. These have significant impacts on satisfaction and the quality of the shopping experience. Online stores perform worse than the hybrid stores in the area of being Informative and in Ease of Purchase. As the only channel of sale, online retailers need to be able to ensure customers are able to obtain information well, interact with the organization easily and navigate the app with ease leading to purchase. Studies have shown that mobile app users have little tolerance for apps that do not perform well and the majority will cease to use the use (Compuware, 2012).A negative experience has more serious repercussion for an online only retailer.

Further research should investigate more closely the customization and personalization that fashion consumers require in their mobile apps. Refining the attributes to develop an instrument to measure mobile app quality, perhaps suitably labelled BrandApp-Qual would be an important next step.

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