The Examination of the Potential of Self-Service Technology Devices in the Lebanese Market: The Case of the Amazon Dash Button

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Abstract

This paper investigates how the introduction of the Amazon Dash button, which allows buyers to order and reorder specific products through a simple press of a button, affects consumer buying behavior within their consumption communities. It also assesses the potential customers and/or retailers that are likely to adopt the Amazon dash button while looking into its overall impact on consumer buying behavior and the shopper web-based community increasing accordingly consumers’ social identity and sense of community. The findings of this study indicate that the Dash button will not replace traditional shopping mediums especially in Lebanon due to the availability of quick and easy product delivery options across the country. However, the study highlights that the likelihood to utilize the Dash button depends in part on consumer brand loyalty as well as overall consumers’ lifestyle within the related web communities.

Keywords: Amazon, Dash button, Communities of consumption, Shopper web-based community
Introduction

The ongoing technological revolution has been continuously affecting consumer behaviors, lifestyles, and preferences. The rapid growth of technology over the past few years has ingrained various technologies embedding itself directly into a consumers’ day-to-day personal and professional routine and actions (Ramadan et al., 2019). In turn, this digital up rise has led to a consequent change in marketing approaches, leading to the growth of a virtual online relationship between the consumer and a given brand (Hughes et al., 2016; Ramadan, 2017); this in turn alters the manner in which consumers and shoppers interact with brands and retailers alike in web based communities (Orel and Kara, 2014; Ramadan and Farah, 2017). In the past, consumers would focus on the tactile elements of buying a product and would physically visit a store in order to see, touch smell, and try a product before going ahead with a purchase. Nowadays, consumers are being exposed to countless brands through the convenience of an ever-growing base of online platforms and shopper web-based communities (Jiang et al., 2013). Indeed, the increased proliferation of online stores and web-based platforms has redefined the consumer traditional buying process (Ramadan et al., 2019) and has forged a closer sense of shopping-based community. Consumers today are demanding convenience due to their busy lifestyles, which in turn is causing them to value platforms that facilitate the delivery of products directly to their own doorsteps (Jiang et al., 2013). Therefore, and in order to maintain a competitive edge in today’s ultra-connected world, companies must consistently aim to provide their consumers with simple-to-use features that enable easy access to products (Ramadan et al., 2017), which will ultimately affect the services industry.

In 2015, Amazon launched a new innovation to its line of products: ‘The Amazon Dash button’. This product allows users to order and purchase products from the comfort of their homes with a simple click of a button (Hockett, 2016). It is offered to Amazon Prime clients and it enables
the creation of a delivery order at any time and place. The button is programmed based on pre-assigned stock keeping units (SKUs) which refer to the exclusive identification tags allocated to individual products; once these SKUs are activated it enables the activation of a delivery order directly from the user’s Amazon prime account (Malinowski et al., 2018). The introduction of this button revolutionizes the consumer shopping experience and removes an individual’s need to visit a physical store to buy groceries. Accordingly, Amazon utilizes the button in order to increase the frequency of clicks and promote customer impulsive buying (Dawson and Kim, 2009). This in turn will not only increase sales but will also limit the impact of external competition since owners of the Dash button will no longer be exposed to other brands as is the case in a traditional retail setting.

Despite the fact that Amazon has lately stopped selling new Dash Buttons (Welch, 2019), its usage is till gaining momentum through the already deployed physical buttons as well as the growing virtual buttons that Amazon Prime consumers are setting up through their Amazon account. In turn, this is consolidating the sense of community that the buttons are instilling into consumers’ minds by initiating the Dash ecosystem. Indeed, this will have a sizable impact on the services industry, whereby these buttons will be infiltrating consumers’ homes, likely leading them to a heightened impulsive buying behavior.

The Dash button – whether physical or virtual – is a revolutionary move that researchers believe will be the standard in a retail setting largely disrupted by the Internet of Things (Smith, 2016). The Dash button is one of the many self-service technologies (SST) that are emerging today and that are subsequently changing the traditional first moment of truth (FMOT) between the consumer and a brand. Such technologies are leading to the creation of a home centered moment of truth that completely erases any physical interaction between a potential buyer and a physical store. This will also lead to a complete transformation of the traditional consumer journey as it
eliminates the awareness, consideration and evaluation phases thus allowing consumers to act solely upon impulsive repurchase decisions related to an earlier selected product or brand (Farah and Ramadan, 2017a). SSTs, which stands for self-service technologies are defined as technological creations and tools used individually by customers where no external help is available (Curran and Meuter, 2005).

Research in relation to modern technological innovations and their role as disruptors of the overall consumer journey is a largely understudied topic with a limited number of studies discussing this topic (Farah and Ramadan, 2017b). Indeed, a thorough review of the extant literature reveals that no study to date examines the effect of Self-Service technologies, and more specifically the Amazon Dash button, on consumers and retailers within the Middle East region (Wolny and Charoensuksai, 2014). Moreover, existing literature largely ignores the effect of such technologies on the consumer journey and the shopper web-based community in the context of developing countries. Accordingly, this study aims to explore (1) the role of SSTs, specifically the Amazon Dash button, on both consumers and retailers in terms of the overall consumer journey, and (2) whether such an SST device can be succesful in a Middle-Eastern market such as Lebanon given the supporting role of shopper web-based communities.

**Literature Review**

*Self-service technologies and their effects on the consumer journey*

Modern technology is changing the way services today are provided and systematized (Meuter et al., 2005). This has led many brands and retailers to directly engage with customers and embed them as active players within the overall a purchase journey (Bendapudi and Leone, 2003). This has been further enhanced by the advent of SSTs that directly facilitate consumer interaction with a brand without the need for any middleman (Farah and Ramadan, 2017a). Examples of such SSTs
include touch screens in retailer branches, information booths at hotels in addition to off-site options such as online platforms and applications (Dabholkar, 1994). Retailers and service providers are further resorting to SSTs since they allow business to save expenses, increase output, and generate a more standardized service setting (Dabholkar, 1996), while also allowing consumers to save money and time in a convenient and efficient manner (Curran, Meuter, and Surprenant 2003; Dabholkar 1996). As a result, customers use SST to reduce their time-based, emotional, or financial costs of a transaction (Sneath et al., 2002; Pujari, 2004; Curran and Meuter, 2007). These innovations have therefore created a new consumer access point, which has further facilitated purchase involvement (Ramadan et al., 2019). As a result, SSTs have become not only a key strategic driver of consumer behavior, but also an integral part of a customer’s purchase routine (Kandampully, 2012; Collier et al., 2015).

However, some studies have indicated that some customers report feelings of frustration and anxiety when using SSTs leading to adverse effects on both brand attitude and the service provider itself (Elliott et al., 2013). SST usage is in large part dependent on whether a consumer is technology ready or not (Elliott et al., 2012). Moreover, even if a consumer is technology ready, he/she might refuse or postpone the usage of SST if they believe there is no perceived benefit of the usage of such technologies (Liljander et al., 2006).

**Overview of Amazon dash button and similar technologies**

Amazon.com was created as an online bookstore in July 1995 and was launched to the public in May 1997. In June 1998, Amazon launched its music store, since then it became the most noticeable Internet seller (Filson, 2004). As the years progressed, Amazon went on to add a huge variety of products, encompassing almost every product group, and, in 2002, the company went on to launch Amazon Web Services (AWS) marking an important development to the firm and its
overall business model (Isckia, 2009; Filson, 2004). Towards the end of 2005, Amazon invested significantly in its technology and infrastructure whereby they eventually started to offer storage capacity to other firms and third-party companies (Isckia, 2009). This allowed many companies and independent developers use web services created by Amazon in order to interact directly with customers through Amazon’s platform and its databases (Isckia, 2009). Such third-party vendors currently make up approximately 30% of the sales recorded by Amazon (Isckia, 2009). The subsequent growth of Amazon has been so instrumental and rapid that it has become one of the largest online vendors in the world. The firm displays the highest number of transactional features online and boasts numerous companies as its customers with Samsung, Foursquare, and SEGA to name a few (Curty and Zhang, 2013; Wang et al., 2008). Accordingly, Amazon today is considered the ultimate market disrupter (Reda, 2016).

Dash Button

One of the latest Amazon innovations is the Amazon dash button: a branded, wirelessly connected single purpose button launched in 2015 and that can be placed anywhere in the house (Gerpott and May, 2016). This device enables an individual to order a certain product through the simple press on a button from any place and at any time; these products are then delivered to the customer’s house through Amazon’s various distribution channels. These buttons are unique in that they create a new shopping experience since they act as both an advertising tool and a product delivery tool thus further increasing the potential for consumer impulsive shopping (Terlep and Bensinger, 2016). Amazon’s Dash button targets modern-day shoppers who are searching for convenience rather than value for money (Digital Commerce 360). Moreover, consumer trust is also an important factor towards the success of the Amazon dash button (Ramadan et al., 2019).
After the launch of the dash button, certain fears arose with regards to the disruptive effect of this device on consumer-brand relationships and on overall consumer purchase behavior (Farah and Ramadan, 2017b). Indeed, studies suggest that the dash button might affect the consumer journey, particularly affecting the ‘awareness, consideration and evaluation’ stages of the purchase journey. This is because the consumer would directly and impulsively re-order the same product repeatedly through the simple press of a button, eliminating the possibility of other brand choices (Farah and Ramadan, 2017a). This in turn may have negative side effects, since the constant availability of the dash button can trigger consumer impulsive purchases thus making it harder for the consumer to monitor his/her spending habits (Digital Commerce 360). However, when a shopper has a good attitude towards a given retailer, he/she is more likely to see the value of the device in relation to a given brand and thus he/she is more prone to impulse purchases (Farah and Ramadan, 2017b). Furthermore, the usage of the Dash Button is likely to reduce the customer's ability to track his/her spending and enhance his/her feelings of convenience, which may also lead to a greater level of uncontrolled purchases (Digital Commerce 360; Wohl, 2015).

Nonetheless, the dash button is without a doubt a revolutionary form of SSTs that not only disrupts the consumer journey as we know it, but that is also likely to have a long-term service value for certain product categories (Farah and Ramadan, 2017a). Indeed, going into the future, this device is likely to become a standard purchase device (Smith, 2016).

**Loyalty**

SSTs in general and the dash buttons in particular tend to significantly affect communication between a customer and a given retailer in turn influencing both consumer loyalty and satisfaction (Ramadan, Farah, and Mrad 2017, 2). Consequently, when a consumer is loyal to a certain brand or retailer, he/she will feel motivated to purchase this given brand, which might in turn trigger
impulsivity (Hausman, 2000). Indeed, when a customer is satisfied, he/she grows to trust the given brand/retailer, which subsequently leads to the development of consumer loyalty and devotion to the brand/retailer in question (Edward and Sahadev, 2011). Consumer devotion in turn leads to an increased likelihood of impulsive purchasing behavior (Mishra et al., 2014).

**Impulsive buying**

Impulsive purchasing buying is known to be one of the most profitable consumer actions for both retailers and manufacturers (Ayadi et al., 2013). In fact, Amazon is a website that constantly provides users with product recommendations based on past browsing and purchasing behavior in order to prompt consumer impulsive purchases (Lee et al., 2014). Impulsive buying behavior can be motivated by two categories of factors: (1) personal factors and (2) environmental factors (Hertzog and Nesselroade, 1987). Furthermore, emotions tend to play an important role in stimulating online impulsive buying behavior as positive emotions towards a brand or retailer significantly increases the likelihood of impulsive buying (Verhagen and Van Dolen, 2011). This is because impulsive purchases lead to a sense of instant gratification, which is further amplified if positive emotions are associated with the brand being purchased (Mishra et al., 2014).

Amazon is utilizing the dash button in order to play upon the above and cause a long-term alteration in consumer buying behavior; they are highlighting the convenience, perceived ease of use and response, as well as the instant gratification bought on by this device to motivate purchases and enhance loyalty (Lee et al., 2014). This is further amplified by the fact that shoppers display a greater likelihood to buy impulsively when completing purchase decisions online whereby studies indicate that over 40% of all impulsive purchases occur online (Verhagen and Van Dolen, 2011).

**Research Methodology**
An exploratory qualitative research design was adopted for the purpose of this study in order to further understand how the introduction of the Dash button to the Lebanese market would affect buyers specifically in terms of (1) overall buying behavior and (2) consumer-retailer relationship within a shopper web-based community. A series of semi-structured, face-to-face interviews were conducted to examine the same and to gain insights in relation to this topic. This approach was favored due to the limited literature on the dash button and its subsequent impact on consumer purchase behavior.

A total of 48 semi-structured face-to-face interviews were conducted of which (1) 16 were elite interviews with individuals with extensive knowledge of the digital field and (2) the remaining 32 were university students and general consumers. The elite interviews offered in-depth insights to the field and to the overall usefulness of this button from field experts whereas the student interviews, on the other hand, offered valuable insights from the consumer segment most likely to utilize the button itself. This is because university students tend to favor convenience and, as the educated youth segment is more likely to utilize online purchasing when compared to other consumer segments (Naseri and Elliott, 2011). The nationality of all the interviewees was Lebanese.

The interviews were conducted with each interviewee after clarifying the objective of the study and introducing Amazon’s Dash button and assuring each individual of maintaining their full anonymity and confidentiality. The elite sample was pre-selected based on the respondents’ expertise in retail; the respondents’ professional backgrounds ranged from brand managers, marketing managers for both online and offline retailers to managers of distribution companies. The interviewee experience levels ranged between 5 and 26 years in total. The sample was selected using a snowball, convenience-sampling method where interviewees were requested to recommend other experts from the field. On the other hand, the consumer sample was recruited
from senior high school students to university students at both the undergraduate and graduate levels. The consumers’ ages ranged between 18 and 36 and those selected were also responsible for completing their grocery shopping. A convenience, snowball-sampling technique was also utilized for this group. All the interviews were conducted in English and lasted for approximately 25 minutes on average.

Data saturation is typically reached when there is enough data to replicate the study (Guest et al., 2006); it was reached at the 10th interview for the elite sample and the 15th interview for the consumer’s sample, however more interviews were conducted since the additional interviews offered further support to the study (Hennink et al., 2017). Two versions of interview questions were used, one for the elite customers and the other for the consumers, both consisting of 14 open-ended questions. The interview questions addressed the following areas:

a- the interviewee’s background profile and work experience;

b- their opinion regarding the Dash button, its usage, and the advantage and disadvantages of its use with regards to the Lebanese context;

c- the effect of the button on the consumer buying journey and on retailer activities;

d- the likelihood that the button can induce impulsive/addictive buying behavior.

All the interviews were recorded for transcription, thematic coding and analysis. The digital recordings were transcribed word by word. Each researcher coded the data systematically and independently, after which thematic coding was checked jointly for consistency, and re-read from interview text several times to check for errors. The data was then coded into NVivo (13) and classified into themes based on the derived analytical links between the data. The resulting themes were named the actual terms used by interviewees themselves. The demographic profile for both interviewee sets is presented in Table 1.
Table 1: Sample Demographic Profile

<table>
<thead>
<tr>
<th>Consumer Sample</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (18-36)</td>
<td>32</td>
<td>100 %</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>46.87 %</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>53.13 %</td>
</tr>
<tr>
<td>Education Level</td>
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<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>21</td>
<td>65.62 %</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>9</td>
<td>28.13 %</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>2</td>
<td>6.25 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elite Sample</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (28-57)</td>
<td>16</td>
<td>100 %</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>68.75 %</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>31.25 %</td>
</tr>
<tr>
<td>Years of Experience (5-26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-15</td>
<td>9</td>
<td>56.25 %</td>
</tr>
<tr>
<td>15-26</td>
<td>7</td>
<td>43.75 %</td>
</tr>
<tr>
<td>Professional Profile</td>
<td></td>
<td></td>
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<tr>
<td>Managerial</td>
<td>14</td>
<td>87.5 %</td>
</tr>
<tr>
<td>Non-Managerial</td>
<td>2</td>
<td>12.5 %</td>
</tr>
</tbody>
</table>

**Discussion of Findings**

The detailed thematic analysis conducted on the interviewees’ responses and its findings recognized two main insights concerning the effect of adopting the Dash button in the Lebanese market on the consumer buying behavior within the related web communities.

*Consumer viewpoint*

The data collected from the consumer sample indicates that respondents believe the dash button will add value to their lives as it allows them to save time and effort. These respondents believed that this convenience was their ultimate motivator in considering the use of the Amazon Dash
button due to their busy schedules that makes them specifically value saving time which are as well featured and shared in shopping web-based communities. Indeed, one consumer indicated:

_It is just easier to press the button and get what I want (Male, age 21)._ 

Likewise, another respondent specified the following:

_It saves me both time and energy; for example, it saves me the hassle of finding a parking spot and getting stuck in traffic. All of this is definitely a plus for me (Female, age 27)._ 

Moreover, this group of consumers appreciates the value and innovativeness of the button especially given the fact that it acts as a purchase reminder:

_“Having the dash button hanging in a place near to where I usually use a given product will constantly remind me whenever I am running out of the product and will thus make me aware of when I need to re-order” (Female, age 23)_

In fact, and based on the above, the dash button allows the customer to recognize when he/she is running out of a product stock inducing them to reorder rapidly through the hassle-free push of a button (Farah and Ramadan, 2017a). Indeed, one of the key reasons behind Amazon launching the dash button is to make reordering products from their online platform more convenient for clients (Ramadan et al., 2019).

In addition to the above, respondents perceived that the Dash button will act as a replacement to physical store visits as it allows the buyer to receive his/her necessities easily and quickly in a time-efficient manner. In fact, the button allows for the speedy delivery of a product directly to one’s doorstep even before he/she runs out of stock. This particular feedback has been shown to be heavily shared in the web-based communities that shoppers use. To clarify, participants expressed the following:

_This will not completely substitute my visits to the supermarket, but it will definitely make my visits less frequent (Male, age 20)._
I think that if I use the dash button I will probably go to the supermarket once every 2-3 weeks instead of once a week (Female, age 19).

Individuals, who viewed the Dash button positively, displayed a greater likelihood to be loyal to the given brand associated with the button. These consumers indicated that they enjoy the idea of having a branded button that allows them to easily order and reorder their groceries which was also apparent through user groups on online shopping related communities:

I love the fact that the brand is written on it. You have a constant advertisement for your favorite brand at home; you would get so attached to that one brand that you will simply forget about all the competition (Male, age 25).

Accordingly, this button has a notable impact on the consumer-brand interaction and communication channels, directly affecting on customer loyalty and satisfaction to particular brands and retailers (Ramadan et al., 2017). The latter in turn enhances consumer attachment to the given brand, which subsequently leads to impulsive purchases. This is because emotional shoppers who rely on their sentiments when making a purchase decision, driven mainly by their sense of collective social identity and hence sense of community, tend to display greater loyalty and impulsiveness in relation to the retailers and brands they love (Mallalieu and Palan, 2006). Accordingly, these small devices completely disrupt the shopping experience acting as both (1) a constant marketing tool and (2) a delivery mechanism enhancing convenience and increasing impulsive shopping opportunities (Terlep and Bensinger 2016).

The Dash button is not a benefit

On the other hand, some individuals from the consumer group were sceptic with regards to the button and did not realize a benefit from its usage. Some signified that they saw no added value
for the button as Lebanon has many options for online delivery whereby most brands and products are easily and quickly delivered to one’s doorstep:

_We live in a country that has made everything so simple for us; you can get practically anything delivered to your own home in less than an hour. I truly see no need to have the dash button in my house_ (Female, age 27).

Some consumers also indicated that Dash buttons would only make people lazier while others strongly highlighted their belief that this button is not a feasible or practical solution:

_I would not want to find myself in a house with 10 to 20 buttons spread out everywhere; it will just get messy. The ‘added value’ in this case is just not worth it_ (Male, age 23).

_The retailer affect_

The elite sample, on the other hand, offered insights from the retailer perspective. These individuals strongly believe that technology in general has greatly disrupted consumer-brand/retailer interaction through the creation of new, non-traditional venues for contact. This in turn provides the buyer with enhanced convenience when shopping leading to impulsiveness and excess buying:

_It eliminates all possible obstacles to purchasing a product; the purchase journey becomes so quick and simple that consumers are likely to make orders without even thinking of it_ (Male, age 35).

Indeed, technology creates new channels of communication for the customer that transcend beyond the traditional time and location constraints (Dessart et al., 2015). The dash button in turn allows for continuous, around-the-clock interaction with the consumer thus enhancing the buyer-retailer relationship (Ramadan et al., 2019). These technologies are essential for retailers longing
to offer clients a new shopping experience that exceeds their expectations and that offers an innovative development to the delivery of products and services (Bagdare and Jain, 2013). Respondents confirmed the following:

*It will trigger an addictive relationship, which will create a very strong bond of loyalty between the brand and the consumer* (Male, age 57)

However, the respondents highlighted their fears that this button has a serious drawback in that it potentially decreases the number of walk-in buyers, which might in turn lead to a decrease in sales and cross selling opportunities which was also commented on through user groups’ support for physical retailers on the shopper web-based communities:

*There might be a downfall in the fact that they (consumers) would not be exposed to the physical store itself. This would limit the chance for them to get exposed to promotions and offers that might interest them from other brands* (Female, age 33).

Similar to the consumer sample, the elite sample also showed some hesitation in terms of the overall practicality of the button in the long-term:

*I will need an entire wall for dash buttons if I am to need one button for each grocery item I use at home; it will become confusing and I will lose count of which buttons I have pressed* (Male, age 42)

*Just imagine if I need one button for every type of chocolate I like, I will need over 10 buttons. This can easily get expensive* (Female, age 28)

**Conclusion and Future Research**

The evolution of self-service technologies has been rapidly growing whereby these technologies are quickly becoming a staple for consumers. Indeed, the disruptive effect of these technologies is
paving the way for a completely new consumer journey and is completely changing the faces of communication between the consumer and brands/retailers. Nonetheless, research is still limited with regards to the overall impact of such technologies especially in Middle Eastern countries such as Lebanon in spite of the fact that these countries display a strong technology usage. Accordingly, this study and its findings are essential in helping retailers and marketers understand how such SSTs will affect consumer buying behavior.

From the practical perspective, this paper examines the overall implications of introducing the Dash button in Lebanon offering valuable insights to retailers and brands alike. The findings indicate that the Dash button as a touch point does significantly disrupt the consumer journey as it enhances convenience and impacts consumer loyalty, attachment and overall shopping behavior, especially with the support of shopper web-based communities. Hence, these devices, whether physical or virtual, are meant to have a significant impact on the services industry. Nevertheless, this study also highlights the fact that many Lebanese consumers and retailers are cynical of the overall practicality of the button, and their skepticism may slow the adoption of such technology in the local services industry. This sheds light on the fact that culture may have a significant impact on consumer likelihood to adopt such technological advances.

Nonetheless, this study is not completely free from limitations. In fact, the findings of this study are based upon an exploratory research design, which may raise some generalizability concern. Accordingly, future empirical research can be conducted to further discuss the implications of such new technological devices and their effect on the shopper’s journey. Future studies can also consider the moderating impact, if any, of culture and demographic factors (such as age, gender and education levels) on consumer acceptance and likelihood to adopt and utilize such technologies.
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