

Assessment and Improvement of Facebook Business Platforms for SMEs in the Philippines

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Abstract

Social networking sites, such as Facebook, allow users to create a public profile and interact with other users. One of its features is having a business page wherein users or business minded people advertise and sell their products online. Living in the fast phase environment and advancing technology, the role of social media in the social economy is seen to increase. SMEs are facing strong expectations for their role to be key players when economies recover from the present global recession. Previous researches include the use of social media as a marketing strategy for businesses however, the standard design for business platforms is yet to be realized. Such in the case of Facebook, it is observed that the features, use, and settings of its business page are not being maximized by the business owners. Nonetheless, it is the intent of this study to standardize business platforms in social networking sites. Focusing on Facebook's platform, the researchers were able to classify the categories that small and medium online businesses sell as well as assess its significant factors and failure points that may affect customer's decision making using the Facebook page interface. Lastly, to meet the user requirements for the proposed business platform design, the study used Quality Function Development and Failure Mode and Effects Analysis.

Keywords

Business platform, Facebook, Failure Mode and Effects Analysis (FMEA), Quality Function Deployment (QFD)

1. Introduction

In the era of advanced technology, everything is available on the internet. Internet connections are accessible anywhere that people can use them anytime. Social networking sites (SNS) are extremely popular with online users. One of the important parts of social networking and SNS is seen as electronic-based services that enable users to connect (OECD 2007). In business, according to Boyd (2010), social media have been used widely in many aspects, for example, advertising products, social networking and attract customers, and studies about social media have emphasized the significance of their utilization in business.

Social Networking sites such as Facebook have become part of people's daily lives. It opens a big opportunity in starting a business as it can attract customers using social media platforms. The potential to market products via online social networks is enticing, with hundreds of millions of segmented members (Ahmad 2010). It allows online users to build business relationships, improve online trading and increase brand awareness. It was reported by Statista (2017) that among all the SNSs, Facebook has 1.968 billion users trailed by WhatsApp (1.2 billion), Youtube (1 billion), Messenger (1 billion), WeChat (998 million), QQ (868 million) and Instagram (600 million). Thus, having a Facebook account is essential for an effective marketing campaign.

Facebook has turned into the most popular social network in our society on both a national and global level, as it is a generalist network with an extremely broad user base. This social network has broken the boundary of the virtual world and has built up itself in the everyday lives of millions of individuals who, as of recently, barely had any contact with the network. In this unique circumstance, the utilization of S-commerce in regards to this social network

specifically is depicted as Facebook Commerce (F-commerce), enabling users to buy from any organization or brand from the comfort of their home, as is commonly said. For if Facebook has accomplished something it is to have a safe environment, less-hassle, a place where we feel comfortable (regardless of the possibility that we are losing a good part of our privacy). Despite these things, for the majority of the purchasing public, Facebook, or any other social network that takes them into the future, turns into the ideal shopping mall, the perfect place to go shopping without dealing with the occasional misleading shop assistant. Also, it is worth noting that Facebook is now the go-to social network when assessing S-commerce (Aladwani, 2015; Jambulingamis et al. 2015).

As a part of the key decisions in the 'business model' evolution and formulation, business owners must pick how their small and medium businesses will communicate with customers and deliver value to them (Morries et al. 2006). Living in a fast phase environment and advancing technology, SMEs are facing strong expectations for their role to be key players when economies recover from the present global recession. This research aims to examine how SMEs see the world through the customer's eyes and continually look for approaches to make more value via social media for customer satisfaction and thus produce fewer complaints (Hitt et al. 2013).

Previous researches include the use of social media as their marketing strategy for their businesses (Ahmad 2010; Alampay 2008; Citrin et al. 2000; Sorenson and Shklovski 2011; Sun et al. 2016). Social media are useful and important in image building, strengthening relationship, and networking among business entrepreneurs and customers (Kahar et al. 2012). The difference between social media platforms and traditional media channels is that social media users are becoming noticeably content makers, not simply content reviewers. We experience a lot of data in our everyday life, and one of the criteria we use to filter is its validity, or credibility and is a solid indicator of an information purchaser's further activity (McKnight & Kacmar, 2007) yet, there is a lack of researches on current social media platforms' content and design. Thus, it is proposed in this study to construct a standardized business platform through the use of social media. Such in the case of Facebook, the features, use, and settings of its business page are not being maximized by the business owners. Hence, this has urged the researchers to take on this research gap as there is a big opportunity in the online business and help the small and medium online businesses here in the Philippines grow as well.

The focus of the study is to first identify different categories that small and medium online businesses sell, using Facebook as the business platform, as well as assess its significant factors and failure points in the involved businesses' current situation. Consequently, the researchers will develop a standardized Facebook platform for SMEs based on the identified significant factors using Quality Function Deployment and also identify possible risks on the proposed platform using Failure Mode and Effects Analysis. This study is limited only to online stores that sell fashion products in Metro Manila.

2. Methodology

The study focused on the online retailing businesses which used Facebook as their business platform. The researchers adapted the framework by Kannan and Li (2006), as shown in figure 1, and has become their guide in accomplishing the objectives of the study.

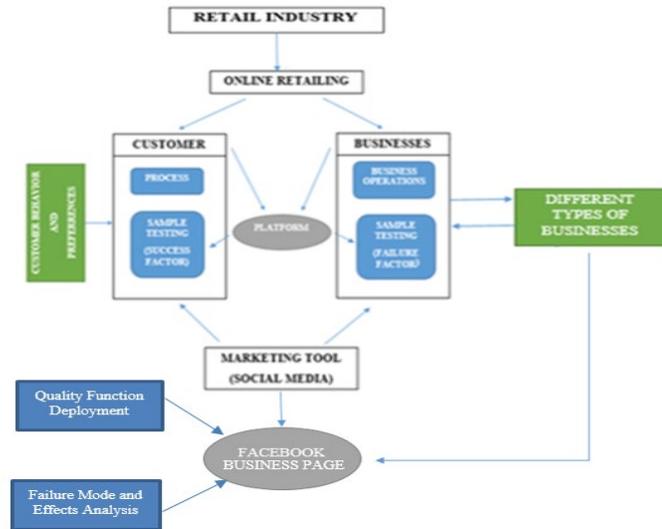


Figure 1. Conceptual Framework of Business Platform

The researchers assessed various interfaces of businesses using Facebook as their medium. By data observation of the interfaces, sample platforms of small and medium businesses depending on their type or category were surveyed. Questionnaires and interview type of surveys were conducted to get more data in coping up with the next procedures. The interfaces collected and evaluated are then assessed using the Usability Evaluation User Interface as each type of business was also evaluated by SWOT Analysis. Results from the aforementioned analyses led the researchers to the following information: (1) current user interface platform of the involved businesses, (2) current designs of the platform, and (3) factors and subfactors based on their operation/process.

Furthermore, Statistical analyses were employed to identify significant factors that affect small and medium enterprises' business performance. These factors are then used as a basis to establish the interface model for the Facebook platform. Moreover, quality tools such as Benchmarking, QFD, and FMEA were utilized to achieve a customer-centered platform design.

2.1 Data Collection

The survey conducted was both manual and online as a means for data collection. Those who were using Facebook for both personal and business purposes and aged 18 and above constituted the target population of this study. It is usually impossible to survey every member of a population because of money or time constraint. With the said constraints, Slovin's formula is used to calculate the appropriate sample size from 60,000,00 facebook users in the Philippines multiplied by 12.64% population in Manila City and with 5% margin of error, a total of 400 respondents participated voluntarily wherein 300 are individual users while 100 are business owners.

$$n = \frac{N}{(1 + Ne^2)} \quad (1)$$

A careful and thorough examination of the research field requires a deliberate and organized literature review for the content of the questionnaire (Bandara et al. 2011). From the collected survey, recurring designs inside research foci were grouped and systematized the foci into consistent categories (Berelson 1952), in which five focus categories emerged for this study, namely: (a) Properties of social networking platform, (b) Management of social media, (c) Characteristics of the user, (d) Behavior of the user and (e) Effects of social media. Table 1 shows a summary of the factors and subfactors that affects the decision making of customers in buying a product on a Facebook business page.

Table 1. Main Factors and Subfactors of Facebook Business Page

MAIN FACTORS	SUBFACTOR(S)
Purpose of the Facebook page itself	Shop Section

Clarity of Posts	Timeline Posting Section
Choice of Products Available	More Photos of the Product, Photo Viewer, Available Sizes
Content	Decent Profile Photo, Clear Name of the Business and Username, Complete Contact Details, Business Category, Additional Details with Location of the store using Google Maps, Product Name, Price of the Product, Quantity, Product Details
Spelling/Grammar	Readable and Understandable Posts
Utility	Accessible Default Tabs, Message Bar, Message Tab
Arrangement of Posts	Pinned Posts

2.2 Data Analysis

The relationship between the factors and subfactors were further analyzed using statistical analyses. Factors that proved to be significant and affects the overall satisfaction rating when buying in the Facebook business page are shop section, more photos of the product, photo viewer, available sizes, decent profile photo, clear name of the business and username, complete contact details, business category, additional details, product name, price of the product, quantity, readable posts and message tab. Refer to (1) for the regression equation of the overall satisfaction rating (OSR) generated using the multiple linear regression model. As shown in the regression equation, the constant is equal to 0.0163 which means that the average overall satisfaction rating will fall to this regardless of the factors. As the values of the variables with negative coefficients increases, the overall satisfaction rating of users decreases or vice versa. For the remaining factors with positive coefficients, as these values increases, the response time will also increase or vice versa.

$$OSR = 0.0163 - 0.000335 * Age + 0.000000 * Monthly Income + 0.2017 * Shop Section - 0.00090 * Timeline Posting Section + 0.410 * More Photos of the Product + 2.004 * Photo Viewer + 1.1953 * Available Sizes - 0.7973 * Decent Profile Photo - 0.3981 * Clear name of the Business and Username - 1.4008 * Complete Contact Details + 0.1976 * Business Category + 0.4155 * Additional Details - 0.6019 * Product Name + 0.3984 * Price of the Product - 0.410 * Quantity + 0.0030 * Product Details - 0.4110 * Readable Posts - 0.0035 * Accessible Default Tabs - 0.0056 * Message Bar + 0.2065 * Message Tab - 0.0042 * Pinned Posts$$

In the correlation analysis, the relationship between the significant factors and the overall satisfaction rating were measured, Table 2 shows the result for all respondents.

Table 2. Correlation Coefficient Testing of Significance for all Respondents

Null Hypothesis (Ho)	There is no relationship between (factors) to Overall Satisfaction Rating.				
Alternative Hypothesis (Ha)	There is a relationship between (factors) to Overall Satisfaction Rating.				
Factor	P-value	R	R2	t_{value}	Decision
Age	0.507	0.038	0.0918	0.6895	Accept Ho
Monthly Income	0.377	0.051	0.6522	1.4953	Accept Ho
Shop Section	0.000	0.987	0.9736	105.0390	Reject Ho
Timeline Posting Section	0.165	-0.080	0.0064	-1.3878	Accept Ho
More Photos of the Product	0.952	0.003	0.0182	0.0524	Accept Ho
Photo Viewer	0.000	0.973	0.9477	73.5695	Reject Ho
Available Sizes	0.633	-0.028	0.0176	-0.4885	Accept Ho
Decent Profile Photo	0.594	-0.031	0.0196	-0.5414	Accept Ho
Clear name of the Business	0.558	-0.034	0.0146	-0.5923	Accept Ho
Complete Contact Details	0.000	0.967	0.9347	65.4343	Reject Ho

Business Category	0.000	0.974	0.9482	73.9997	Reject Ho
Additional Details	0.822	0.013	0.0002	0.2248	Accept Ho
Product Name	0.000	0.967	0.9347	65.4343	Reject Ho
Price of the Product	0.000	0.960	0.9220	59.4374	Reject Ho
Quantity	0.995	0.000	0.0189	0.0000	Accept Ho
Product Details	0.828	-0.013	0.0058	-0.2254	Accept Ho
Readable Posts	0.817	0.013	0.0002	0.2248	Accept Ho
Accessible Default Tabs	0.000	0.960	0.9225	59.6288	Reject Ho
Message Bar	0.561	0.034	0.0011	0.5882	Accept Ho
Message Tab	0.000	0.967	0.9346	65.3843	Reject Ho
Pinned Posts	0.831	-0.012	0.0057	-0.2081	Accept Ho

The table shows the result of the Testing of Significance of the Correlation Coefficient for all the Respondents and the corresponding factors. The t-critical value was obtained from the t distribution critical value using a 95% confidence interval, which is equal to 1.97. All values greater than 1.97 mean that the null hypothesis is rejected. The p-value is less than or equal to the significance level (0.05), therefore the researchers concluded that the correlation is different from 0. The formula used for the computation of the t-value is shown below.

$$t = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}} \quad (2)$$

3. Results and Discussion

To establish the interface model for the Facebook platform intended for SMEs, quality control tools such as Benchmarking, Quality Function Deployment (QFD) and Failure Mode and Effects Analysis (FMEA) were applied by the researchers. These quality tools were used to ensure that the proposed interface model would meet user requirements.

3.1 Benchmarking

Three Facebook business pages were benchmarked to evaluate current design performance along with identifying what needs to be improved in the existing interface. Sample designs were ranked as best, good and worst. Time observations were collected on thirty customers for each category and customers were observed for the time they spend browsing the Facebook page. 2.15 minutes of browsing was observed for the page with the best platform, while it took 2.29 minutes for the good platform, and 2.32 minutes for the worst. Therefore, on average, it takes 2.25 minutes to browse the current platform and it was observed that users take a lot of time exploring the page for the purpose of buying clothes because of the jumbled posts and unorganized layout that led to confusion and ineffective Facebook interface.

Figure 2. Quality Function Deployment of Proposed Facebook Business Platform

3.3 Failure Mode and Effects Analysis

The researchers developed Failure Mode and Effects Analysis (FMEA), shown below in Table 4, to assess potential risks that the changes in the business platform may bring, which could lead to possible sales loss. To determine its risk priority score, the researchers designed a scale table, shown in Table 3, wherein they based their scores for the severity, occurrence and detection of a potential risk failure.

Table 3. Failure Mode and Effects Analysis Scale for Facebook Platform Design

Ranking	SEVERITY (Seriousness of the effect of the customer)	OCCURRENCE (Likelihood that the cause will occur and result in the failure mode any year of product line)	DETECTION (Likelihood that design validation, manufacturing, acceptance test and detection methods will identify the product weakness)
1-2 Very Low	Will probably not even be noticed by customer.	Failure is unlikely at all < 1%	Method will almost certainly detect a potential weakness.
3-4 Low	Slight customer annoyance.	Relatively few failures 1-4%	Method has a good chance of detecting a potential weakness.
5-6 Moderate	Some customer dissatisfaction.	Occasional failure 5-19 %	Method may detect a potential weakness.
7-8 High	High degree of customer dissatisfaction.	Repeated failure 20-49 %	Methods not likely to detect a potential weakness.
9-10 Very High	Noncompliance with regulation contracts or affected	Failure is almost inevitable > 80 %	Method will can not detect a potential weakness. No Method.

Among the 4 functions stated, the function - picture posts showing different lines of products offered by the store - got the highest Risk Priority and one that needs to be prioritized the most, as it can present a confusing product offering layout which is caused by uncategorized page layout. To prevent this, it is recommended to categorize each product to its classification. Other potential risks identified were not able to reply or receive messages from customers, followed by the wrong encoding of prices and page being hacked.

Table 4. Proposed Platform Failure Mode and Effects Analysis

Function	Potential Failure Mode	Potential Effects	Potential Cause(s)	Current Design Control	Recommended Actions	Frequency of Occurrence (1-10)	Degree of Severity (1-10)	Chance of Detection (1-10)	Risk Priority (1-1000) [4]x[5]x[6]
Messaging tool used to gather orders and communicate to customers	Unable to reply or receive messages from customers	•Loss of potential sales •Dissatisfied customers	•Software Bug •No available staff to tend to messages •No internet connection	Prevent	•Update regularly the software •Periodically monitor the store for any messages •Check internet connection regularly	8	8	6	384
Picture posts showing different lines of products offered by the store	Confusing product offering layout	Loss of potential sales	Uncategorized product line up	Prevent	Sort and categorize each product to its own classification	9	9	5	405
Each product post provide their following information like name, size color and price	Wrong pricing	•Customer complaint •Loss of potential sales	Mistake with the encoding of the information (Human Error)	Prevent	•Double check each post to be uploaded •Routinely check older posts for any errors	7	6	8	336
Access through the page is made through input of username and secure password	Page hacking	Complete no control and access to the page	•Giving out passwords to other people •Weak password	Prevent	•Do not easily entrust passwords to other people •Lengthen or use hard to decipher passwords	5	6	8	240

3.4 Proposed Facebook Business Platform

Key findings from the conducted analyses guided the researchers to design a standardized business platform for small and medium business owners. The researchers have modified the features of the Facebook business page based on the results gathered. As shown in Fig. 3, the following modifications were proposed to come up with a more organized and effective layout:

1. the complete contact details of the seller were put on the top of the business page where it can be the first thing the buyers can see;
2. the shop section is displayed under the status bar where buyers can easily locate the products with its prices;
3. the default tab can be re-ordered or lessen according to the seller's preference. It can be limited to 7 tabs which are home, shop, about, photos, posts, reviews and community that customers preferred to only see;
4. the pinned post shows relevant information about the process of purchasing the product;
5. for the additional details section, a map of the address of the business is displayed so that customers can easily locate the store where they can be able to go in the eventuality of having problems for the products they purchased;
6. The rest of the features such as the profile photo, name of the business, message bar, business category section, timeline posting section remain as is.

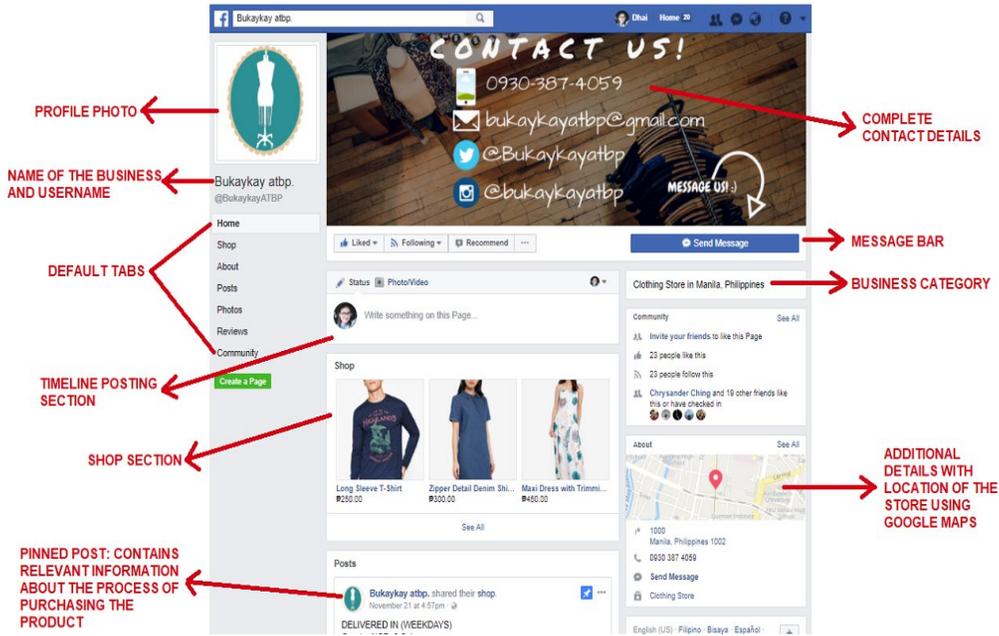


Figure 3. Proposed Facebook Business Platform (Home Page)

The researchers also modified the shop section of the business page. In the current platform, the shop section is used to display multiple albums of photos of the products being sold. For the proposed platform as seen in Figure 4, when the customer selects the shop tab, the screen shall feature all the products offered by the seller. The featured products are positioned at the top while a summary of all the products will be displayed at the bottom. Products will also be displayed with their prices.

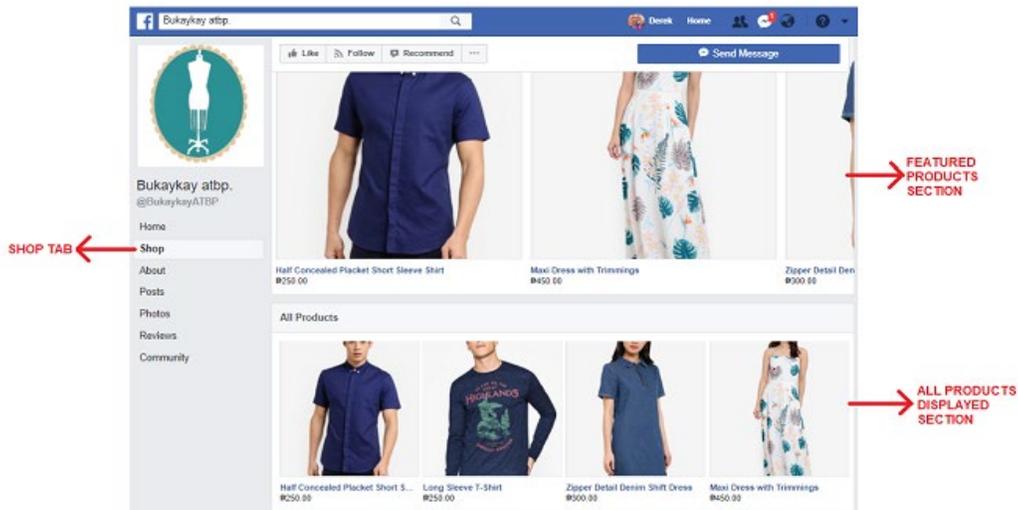


Figure 4. Proposed Facebook Business Platform (Display of Products)

Additionally, when the customer selects a photo of the product, the photo viewer displays the product description and the comment section where customers can inquire about the product or leave testimonies. In the proposed platform, the researchers designed this section wherein the photos viewed can be zoomed and thumbnail of photos are available in the upper left side of the screen. On the right side of the photo viewer, product details are displayed such as price, size available and quantity to be ordered. Relevant information shall be required from the seller to fill up once the product is being set on the page.

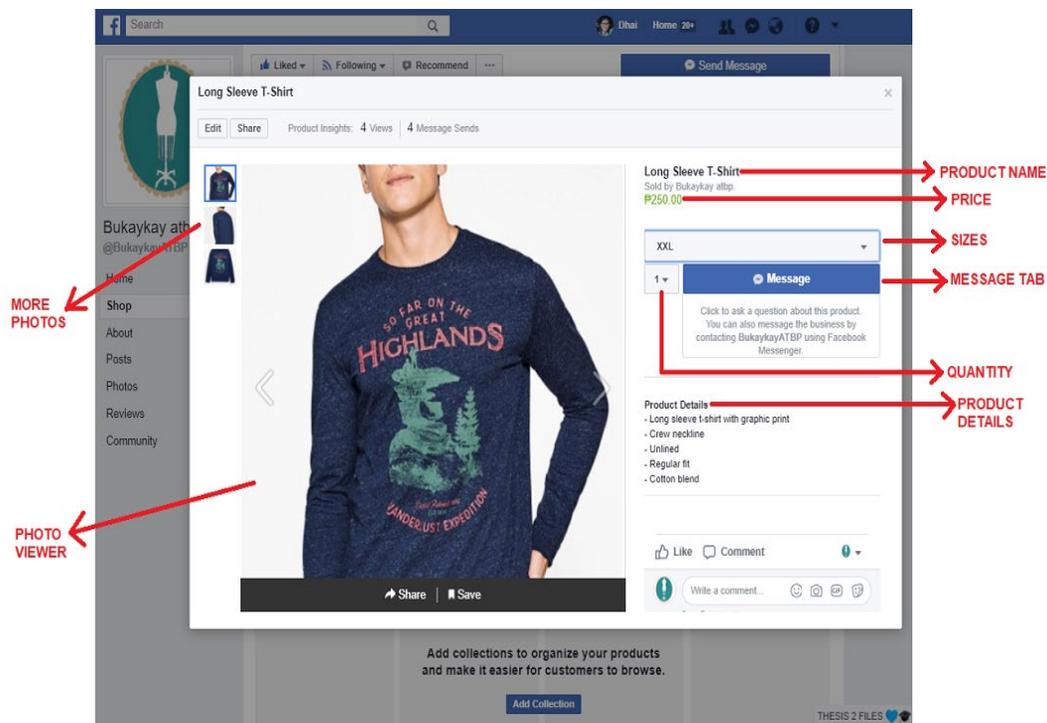


Figure 5. Proposed Facebook Business Platform (Photo Viewer)

4. Conclusion

The success of an online business Facebook page relies on its interface. When purchasing online, buyers cannot touch the products, smell them, feel them, taste them, or use them therefore, it takes exceptional persuasive power and powerful content to sell online where customers base their decisions on content in its many forms such as written descriptions, photos, videos, reviews, spec sheets and product demos (Ganoe 2014). The researchers intend to design an online business page with the needs of the customers in mind, capitalizing on its features and settings to prevent redundancy of posts and avoid customer confusion. Likewise, help business owners in managing their business page conveniently.

The proposed interface developed by the researchers, based on the data and results articulated, arranged and displayed significant posts of what was needed in an online Facebook business page. Potential users were asked to test the new design wherein time observations were gathered. Results showed a significant decrease in time spent on browsing the page and when posting to buy the product. It only took an average of 1.75 minutes for a customer to complete an online transaction which is 15% lower than the current interface. The users also remarked how the page looked pleasant in the eye as decluttering was minimized and noted the convenience in exploring the page as the time consumed to scroll the page was reduced.

This research study also proved that there is a need for improvement with the current Facebook business platform. This implies to maximize the utilization of the features offered by Facebook and to use the settings of the platform efficiently to increase online sales and sustain the business for the long term. Moreover, the limitations of this study is it focused only on the fashion product line since it dominated the online business shopping trend. However, researchers who want to improve this study can as well assess platforms of other online stores selling various or multiple products (e.g. Electronics, Toys, Food).

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