

Identifying Users' Engagement in E-Commerce

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ABSTRACT

The digital age has produced a plethora of diverse websites for web users to connect and use. Although E-Commerce advancement has grown immensely and became a valuable channel for the transaction of selling and purchasing activity between seller and customers, E-Commerce companies are faced with a highly competitive environment today with the flooding emergence of business going digital. An effective website is a significant factor in attracting and retaining customers' absorption to promote purchasing behaviour. Additionally, user engagement is often associated with the workflow of E-Commerce due to its ability in influencing customers' satisfaction. However, there is a lack of quantitative studies focusing on the construct of customer engagement observed. For these reasons, there is a need for the exploration to concentrate on the antecedents and consequences of the construct of user engagement to get an in-depth clarity on the aspect. Literature reviews performed demonstrates very few empirical studies focusing on E-Commerce as a contextual periphery of optimization of user engagement. Although user engagement has been widely highlighted in various fields for its significance, it is still a challenge for an E-Commerce business to optimize it as to lack of reference effectively. Theoretically, a good design constitutes factors of users' satisfaction assimilation requirements and technical implementation. Therefore, understanding and fulfilling people's demand is a fundamental design concept required to be implemented. Thus, this study aims to identify the elements of user engagement in E-Commerce through a preliminary review study. The results of the study show the identified and listed users' engagement elements and the design elements that contributes to the user engagement elements. The extracted result of the study will benefit researchers and designers to produce an effective E-Commerce website that promotes engagement with the integration of user engagement elements on the development. The implementation shall be useful to be used as a guidance and improvement reference.

Key Words: business, emotional, optimise, customer

1. INTRODUCTION

According to Bock and Maewal (2020), user engagement is depicted as a positive attribute interaction of a user experience. The experience is associated with users being captivated by a website or application and inspiring the users to continue using it. In addition, O'Brien and Toms (2008) define engagement as a process characterized by attributes of engagement that pertains to the user, system, and user-system interaction. Their result demonstrated that engagement is a process comprised of four distinct stages, namely, point of engagement, period of sustained engagement, disengagement, and re-engagement. Moreover, user engagement is closely associated with an emotional, cognitive and behavioural connection that exists, at any point in time and possible overtime, between a user and a resource (Viberg et al., 2020).

A successful site is used and engaged with; users will spend energy, time, and emotion in them. When the customers' transient interest becomes a major resource, businesses are required to equip their E-Commerce site with an engaging experience to ensure a steady flow of engagement process. For many years, human-computer interaction studies have emphasized the need to move beyond usability to understand and design for a more engaging experiences (Hassenzahl & Tractinsky, 2006). The failure to engage and satisfy users' emotional demands is linked with no transaction of sales and no transmission of information through the E-Commerce site. User engagement of a website is generally measured based on various parameters such as click-through rates, page views, number of unique visitors, the period spent on a website, and others. The definition of user engagement is intentionally broad and is deliberately

influenced by various factors such as user context, the association of user interface with process flow, value system and incentives.

E-Commerce has emerged in the depths of large enterprises as a system of resource allowing between many departments, the choices for shopping has evolved. Hence, E-Commerce operation must flow along with this paradigm shift. To understand the challenges faced by E-Commerce nowadays, it is vital to understand and delve into the current issues. The issues related to topics of data security, competitors and personalization for customer engagements. E-Commerce is an imperative extension of an organization to depict a positive figure of the organization. Consequently, an E-Commerce platform that does not portray a satisfactory user experience and complex to use will cause otherwise a poor presentation of the organization and may cause customers to go to other sites. Nonetheless, Lightner and Eastman (2002) stated that it is fair to assume that an E-Commerce that considers both old and disabled users in the design construction is essential for the success of online business.

2. RELATED WORKS

In the recent decade, the study of human-computer interaction has highlighted the necessity to move beyond usability to build a more engaging experience (O'Brien & Toms, 2008; Jaffar et al., 2020). Consequently, practitioners Brown and Cairns (2004) convey difficulty in understanding, identifying, and developing user engagements that comprises of user control, motivation, attention, system feedback, and individual stimulation. According to Brodie et al. (2011), user engagement can be summarized into five conceptual domains such as follows:

User engagement plays a central role within a homological network of service relationships; User engagement is a reflection of user experience psychological state which occurs through an interactive user experience with organization within specific service relationships; User engagement occurs within a specific set of situational conditions generating various user engagement levels; The state of user engagement occurs within a dynamic, iterative process of service relationships that co-create value; User engagement is a multidimensional concept subject to a context and stakeholder-specific expression of relevant cognitive, emotional and behavioural dimensions.

On the basis of empirical studies on user engagement, an E-marketing related opinion (Sashi, 2012) affirms that engagement between or among users and organization decorates a dynamic space for value co-creation by generating user contents, providing feedback for both sides, diffusing information and promoting advocacy sensitivity of users. Figure 1 presents a generally straightforward process of user engagement.

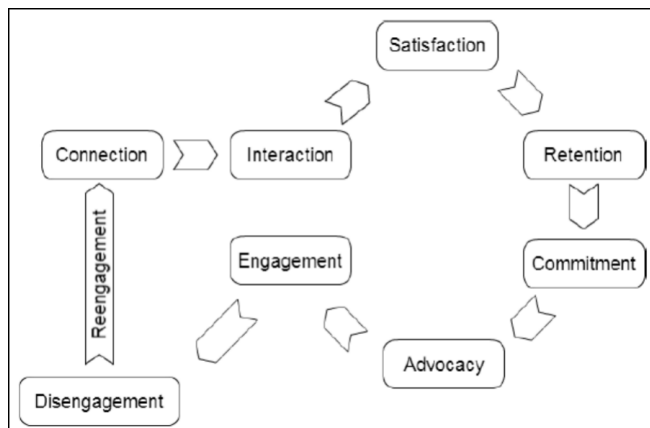


Figure 1: User Engagement Cycle

The cycle is generally composed of the process for building user engagement. As illustrated in Figure 1, the notion of user engagement cycle refers to the connection, interaction, satisfaction, retention, commitment, advocacy, and engagement. The cycle establish a connection to motivate users and allows companies to interact with users to capture their needs or provide information to them. In most marketing strategies, the process commonly behaves as a key role that helps measure the effectiveness of users' progress from awareness to loyalty. A well-known model by Ertell (2010) defines user engagement into five levels: awareness, consideration, inquiry, purchase, and retention. Sashi (2012) corroborates the user engagement process as one of many approaches to develop emotional bodies in relation to exchanges with consumers. Fulfilling user satisfaction to continue with the engagement process retains an abundance

of positive emotions and results in a long-term connection over time, resulting in a higher level of customer loyalty.

On the basis of the preceding theoretical foundation, O'Brien and Toms (2008) explored a unique insight for constructing the process of user engagement. They considered a whole user engagement process should contain circulation and generalize various elements related to user engagement into four distinct stages: point of engagement, period of engagement, disengagement, and re-engagement. They believed a further comprehensive user engagement initiated from the resonance between the aesthetic or informational composition of the system interface with users, then entered the period of sustained engagement developed by maintaining user's focus and interest in the interaction. Furthermore, experiencing a disengagement with a break due to any user's internal or external factors, companies finally implemented a re-engagement by re-motivating users back to the initiated stage based on utilizing user's positive past experience before they truly decide to abandon. With the emergence of E-Commerce in a highly competitive environment, users are extremely likely to get disengaged by cause of the end of purchase behaviour, connection with other websites after a horizontal service or price comparison or lack of novelty in the website. Hence, re-engagement is an essential element to embed in the cycle to achieve a sustainable user engagement flow.

Research by O'Brien and Toms (2008) demonstrates a comprehensive study of engagement based on four major fields of applications, namely: internet shopping, webcasting for education, web search and video games. In addition, they also emphasized that websites with poor design architecture and accessibility could facilitate in projecting possible challenges to engagement. The obtained outcome from the review study would be profitable for developers and designers to acquire a deeper understanding of the designation for engagement based on visible motives. Engagement is interpreted as the user experience quality, which is contributed by six factors: focused attention, perceived usability, endurance, novelty, aesthetic and involvement.

The advancement in E-Commerce has enabled customers to be involved in the process of retailers' business. Through a variety of accessible web tools, customers can personally and effectively impact the business practice of online vendors. Hence, proactively researching aspects that obtain, draw, maintain and encourage loyal, engaged and enthusiastic customers are part of strategic values for online business (King et al., 2016). Businesses that do not provide an experience to their customers have difficulty to thrive. Undoubtedly, the emotional hooks for involvement and absorption in an E-Commerce platform are engagement and interest (Jennings, 2000).

User engagement from a traditional E-Commerce perspective has always concentrated on the term product innovation. It can be easily traced in the process of product design, product testing and product introduction. An organization solicits user input in order to have a better or faster product update or iteration (Sawhney et al., 2005). Yang (2016) describes user-driven needs as User-generated Contents (UGC) that represents an information repository where users reveal their individual needs, desires or any other emotions. Considering that user engagement expands the customer's role by means of immersing them as co-creators of value in the value-adding mechanism (Sashi, 2012). These intangible assets created by users primarily exist in an internet-based environment in the form of UGC. The more users are engaged, the more valuable it becomes to the organization and users. Hence, optimizing user engagement elements in an E-Commerce site will enable the organization to capture user behaviour better and results in positive purchasing behaviour and engagement from its customers.

3. METHODOLOGY

The optimization of user engagement in E-Commerce is a plausible approach to creating an E-Commerce website with value co-creation. The recognition of user engagement elements is key aspects for companies to understand consumer-oriented needs and demands for providing an E-Commerce website that satisfies the consumer. The identification of user engagement elements requires preliminary review study from previous theories and research to understand the concept and relating attributes of user engagement that positively influence visitors' retention and purchasing behaviour (Lee & Kozar, 2012). This study will be conducting preliminary review that focuses on the user engagement elements and its contributing elements.

4. RESULT & DISCUSSION

Based on preliminary reviews studies, six elements of user engagements are identified, namely: focused attention, perceived usability, aesthetics, endurance, novelty and involvement derived from the recognition of emotional, cognitive, and behavioural dimensions. The elements of user engagement are listed in Table 1 with each element definition.

Table 1: List of User Engagement Characteristics

Characteristics	Definition
Focused Attention	The concentration of mental activity; concentration on one stimulus only and ignoring all others.
Perceived usability	Emotions experienced by users when they are able to complete their task.
Aesthetics	Visual beauty or the study of natural and pleasing (or aesthetic) computer-based environment
Endurability	Likelihood of remembering an experience and the willingness to repeat or recommend it to others
Novelty	Variety of sudden and unexpected changes (visual or auditory) that cause excitement and joy or alarm. Features of the interface that of users find unexpected, surprising, new, and unfamiliar.
Involvement	Fun factor of a website experienced by users during an interaction and how drawn users potential can become.

A few of the listed elements holds stronger linked with one of the dimensions as indicated by Attfield et al. (2001), although most of the elements are a combination the three dimensions (emotional, cognitive, and behavioural dimensions). The data in Table 1 provides several approaches for analyse the designable causes and observable consequences of user engagements. Additionally, a well-designed website with high usability attributes contributes to a positive influence on customer retention and purchasing behaviour (Y. Lee & Kozar, 2012), hence the design elements that could influence the fulfilment of user engagement elements is an essential aspect to be acknowledged. Table 2 shows the design elements that influences user engagement in a website.

Table 2: User Engagement Elements with Contributing Design Elements

Design Elements	Definition
Organization	Website logically organized. i.Cognitive mapping ii.Understandable structure iii.Logical organization iv.Hierarchical organization v.Systematic information arrangement and categorization vi.Consistency vii.Meaningful labels viii.Keywords
Content Utility	Information provided useful or interesting. i.Sufficient amount of information to attract repeat visitors ii.Motivation to keep visitors interested and further explore the site iii.Content quality iv.Up-to-date information v.Relevant to the purpose of the website vi.Users' needs and requirements
Navigation	Website easy to navigate. i.Salient menu or navigation bar ii.Consistency of navigation bar iii.Aids for navigation iv.Easy access to web pages v.Search features vi.Users feel in control and easy of managing
Graphical Representation	Website utilizes icons, contrasting colours, and multimedia content. i.Inclusion of images ii.Size and resolution of images iii.Multimedia content iv.Colour, font and size of text v.Distinct logos and icons vi.Visual attractiveness or layout vii.Colour schemes viii.Effective use of white space or avoid visual overload ix.Minimizing loading time for visual elements

Purpose	<p>Website clearly states its purpose (i.e. personal, commercial, or educational).</p> <ul style="list-style-type: none"> i.Unique identity ii.Intended purpose of visiting iii.Type of interaction iv.Organizational attractiveness v.Visible brand and organization information vi.Information about service policy
Simplicity	<p>Design of the website simple.</p> <ul style="list-style-type: none"> i.Simple subject headings ii.Transparency of information (reduce search time) iii.Website design optimized for computer screens (responsive) iv.Uncluttered layout v.Consistency in design throughout the website vi.Ease of using vii.Minimize redundant features viii.Easily understandable features

Garett et al. (2016) research investigated 20 different design elements that are frequently addressed in user engagement exploration. Their research identified only six elements are included in at least 30% of the experiments and included elements which are above the research threshold. Hence, the work is an exploratory analysis that presents the interpretation for website design concepts and starting point for potential reference studies. The listed design elements in Table 2 will aid in designation best practice for facilitating and predicting user engagement. Hence, with the constructed Table 1 and 2 data, the user engagement process can be sustained with the fulfilment of an E-Commerce website design integrating elements from the table above.

5. CONCLUSION

The elements of user engagement identified are focused attention, perceived usability, aesthetics, durability, novelty and involvement. The contributing design elements to user engagement are organization, content utility, navigation, graphical representation, purpose, and simplicity. These elements will be integrated and implemented for the development of a user-centric E-Commerce website. Through a profound understanding of the connection between consumer emotions and the construction of E-Commerce content, the quality of an E-Commerce platform may be notably enhanced. Further, understanding the influence of emotional variable on customer's decision-making process during an online purchase would facilitate the design scheme analysis for E-Commerce content. Hence, the business organization would gain significant benefits when the organization implements suitable tools when considering customers' emotions. Customers are emotional beings and the emotions which they exhibit will ultimately affect their purchase decision. Thus, future works will integrate Kansei Engineering methodology as it assimilates consumer's impression, feelings, and demands into a design solutions with concrete design parameters. The development of E-Commerce design scheme will be able to fulfil consumers' emotional needs and increase user engagement. The attained outcome of design requirement guideline from the Kansei Engineering framework will produce an enhanced prototype of the domain with the incorporation of acquired Kansei values, user engagement elements and expert practical consideration. The utilization of proper Kansei Engineering implementation will benefit researchers and designers from the design outline to produce an E-Commerce website that optimizes user engagements and shall be useful to be used as guidance and improvements reference.

ACKNOWLEDGMENTS

Researchers thank Universiti Malaysia Sabah (UMS) for the support of resources and facilities needed for the preparation of research. This study is currently funded by the FRGS Grant from the Ministry of Higher Education Malaysia (FRG0514-1/2019).

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