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ANALYZING EFFECTIVE WEBSITE DESIGN LITERATURE TO DEVELOP A STANDARD SCORECARD

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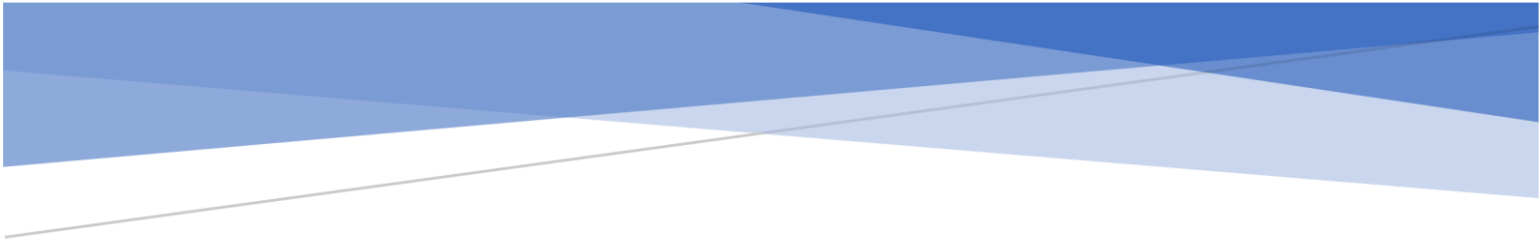
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ANALYZING EFFECTIVE
WEBSITE DESIGN
LITERATURE TO
DEVELOP A STANDARD
SCORECARD

DHC Capstone

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Introduction

The motivation for this paper and research is to address a gap in e-commerce website design and the available tools for evaluating them. There are limited resources and tools readily available for evaluating effective e-commerce website design, particularly.

While research in this area, both specifically and broadly, is not limited they have yet to be aggregated and developed into an intuitive and accessible scorecard. With such a scorecard anyone can evaluate any website and easily identify areas for improvement and existing gaps within the website design. The scorecard that was produced as a result of this paper is anticipated to increase sales, user engagement, conversion, and the amount of returning customers.

In an effort to create a scorecard that can be used to evaluate an e-commerce website's design, several previous studies were researched, selected, and compiled to gain an understanding of how design can be considered a methodical and strategic decision. These studies were then compared to one another for areas of overlap, patterns, themes, and any other factors that may emerge that would be found relevant to this paper and study.

This research paper focuses on literature review in the areas of e-commerce website design elements and concepts that facilitate user engagement and conversion. These elements and concepts are derived from frameworks considered effective designs (Bradley 2010). The objective of this study is to identify a way of evaluating what can be considered good and effective design. From that launching point, previous research and

studies were sought out for their study in areas that could help create an evaluation tool. The result is that from this study, a scorecard has been created that allows for e-commerce website design to be evaluated based on user perspective.

Brief Literature Review

The literature was selected from peer-reviewed scientific articles that were published since the year 2000. Secondary sources were identified through the first group of studies and their references. The keywords usability, e-commerce, website, design, best practices, elements, components, good design, bad design, website features, and website elements were used to further filter the search results. For example, studies that focused on design best practices but were not website or e-commerce based, like physical retail location consumer pathways design, would be filtered out. From those results, studies available online, in English, peer-reviewed, and published since the year 2000 were selected. Many of these studies were found to be too niche, too specific, or did not match the type of e-commerce consumer as this study was targeting to be relevant in a general study such as this one. An example of such studies is the vast amount of research studies on university library website design.

A Literature Review: Website Design and User Engagement

Garett et al. (2016) researched website design elements that affect user engagement and found that the top seven website design elements mentioned were, in descending frequency order: navigation, graphical representation, organization, content utility, purpose, simplicity, and readability. The definitions for these elements were also taken

from this study as it included further research into a compilation of definitions and offered the most copasetic definitions that were identified in the course of this paper.

An Examination of Retail Website Design and Conversion Rate

McDowell et al. (2016) researched and analyzed the intersection of retail website design and conversion rate and whether the former is positively or negatively associated with the latter. The study analyzes website user sequences and the design features available at each of those stages. The Visitor Greeting Page was found to be especially significant as early engagement and found to be a strong contributor in conversion. The strongest features for the Visitor Greeting Page were found to be Offers Recommended Products, Offers Featured Products, and Provides Links to Site Pages.

Consumer Trust and Distrust: An Issue of Website Design

Ou and Sia (2010) researched specific website design elements and whether they affect user trust and distrust. The study is primarily focused on elements that facilitate or minimize distrust in users and the effect on buying intention. Factors were identified as having overlap in the other research studies such as communication, organization, expectations, perceptions, and competence. The concepts of trust and distrust were found to have an impact on both user engagement (Garett et al. 2016) and conversion rates (McDowell et al. 2016).

Results

Taking the relevant literature into consideration, including literature studies themselves, the most frequent and significant elements have been identified. Of those elements, of which there are many, the elements found to have the most significant association with user engagement, conversion, and found most frequently to positively affect those outcomes were selected as the scorecard metrics. The elements selected for the measured metrics for the scorecard are identified and defined in the *Metrics and Definition's* section of this paper.

Creating the scorecard

The questions of what makes a design good, effective, satisfactory, intuitive, and others guided the research for this paper and resulting scorecard.

The scorecard was created by analyzing the sourced research to identify design elements of websites that are deemed significant in conversion rates (McDowell et al. 2016), influencing user behavior (Garett et al 2016), and adding to or detracting from the user experience (Ou and Sia 2010). Measured metrics of the scorecard were limited to only a few of the identified significant elements in an effort to simplify the website design evaluation. These metrics were selected due to their high frequency in the research literature (Garett et al 2016), their established importance in design evaluation (Jain and Purandare 2021), and the ability to easily measure them from strictly a user perspective.

Metrics and Definitions

Metric 1: Early Engagement

Early engagement is defined as engagement within and on the website landing page, also known as the home page or visitor greeting page. This metric has been found to be highly associated and highly significant in furthering the user engagement and ultimately ending with user conversion. The most effective and most significant elements within this metric are recommended products, featured products, and providing links to site pages. (McDowell et al. 2016)

Metric 2: Navigability/ navigation

Navigability/navigation is defined as having features that allow the user to navigate through the website's various pages in a consistent manner and with elements that add to that objective. Furthermore, the page layout and design must be consistent. Elements that add to navigability are search features, menu bars, linked tabs, embedded links, and multiple pathways to different pages (Green and Pearson 2010). The arrangement and execution of these elements must not only be consistent but also logical, organized, and easy to use. User expectations being met on this metric have a high impact of user perception of ease of use, usefulness, and satisfaction (Garett et al 2016).

Metric 3: Graphical Representation

The definition for graphical representation is adopted from Garrett et al. (2016)

“Engaging graphical representation entails 1) inclusion of images, 2) proper size and resolution of images, 3) multimedia content, 4) proper color, font and size of text, 5) use of logos and icons, 6) attractive visual layout, 7) color schemes, and 8) effective use of white space.”

This metric was found to be the second most frequent element mentioned in research studies on website design and user engagement.

Metric 4: Organization

Website organization is defined as being logical in sequencing, structure, arrangement, and processes. This can be in the form of well and logically categorized information, appropriate labels and titles, and cognitive website architecture. Garrett et al. (2016) also includes the requirement of keywords in their definition of optimal organization, this is in practicing avoiding information overload and is also an aid in search features.

Metric 5: Ease of Use

Ease of use is defined as the level that consumers perceive a particular technology being free of effort (Green and Pearson 2010). Ou and Sia (2010, p. 918) further define ease of use as a “level of cognitive effort needed in learning how to use the website”. All of the other metrics selected for the scorecard intersect with ease of use and when they are done effectively, they increase user perception of ease of use. Jain and Purandare (2021, p. 1) found that “97% of the mobile application users have chosen ease of use as their prime importance”.

Scorecard scale:

The scorecard is utilized by scoring each metric based on the outlined criteria listed below the metric name and the score range qualifications specified in the boxes below the score range itself. The ranges are designed to allow for considerations not listed, for example meets all criteria technically but is poorly executed. Each metric has a high score of 20 points and a low score of 0. An empty box is provided for each metric to record the score. After each metric is scored, the aggregate score can be recorded at the top of the scorecard in the provided score box for a grade out of 100.

Conclusion:

In conclusion, this research study compared various other research studies and found the website elements and features that facilitate user engagement and conversion. Those findings were then utilized to create a scorecard for scoring website designs in an effort to provide insight on website effectiveness and user perspective. The resulting scorecard can be found below. Evaluating an e-commerce website based on the metrics outlined in the scorecard, and this paper, website owners and designers can ensure better user engagement, an increase in sales, and an increase in return customers.

Challenges

The scope of this research was limited to the most common elements and features for website design. Further research can examine other common elements and features that

increase user engagement as well as commonly utilized elements that minimize user engagement and conversion.

Future Research

Future research in this area could include polling both desktop and mobile website users, allowing for huge insight into their needs, expectations, and perceptions.

Compiling more research studies and analyzing them for their top elements identified, highly associated features and more would be very beneficial in understanding what should and, additionally, what should *not* be included in website design.

Website: _____	Score: ____ / 100
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Metric 1: Early engagement

Criteria: Home Page / Landing Page

- Offers recommended products
- Offers featured products
- Provides links to site pages

17 - 20 points	11 - 16 points	5 - 10 points	0 - 4 points
Meets all or nearly all early engagement criteria	Meets most early engagement criteria but needs some improvement	Meets some early engagement criteria but lacks in others or needs a lot of improvement	Meets little to no early engagement criteria.

Comments:

Metric 2: Navigability

Criteria: Across Entire Site

- Consistent menu/navigation bars
- Search features
- Multiple pathways to pages

17 - 20 points	11 - 16 points	5 - 10 points	0 - 4 points
Meets all or nearly all navigation criteria	Meets most navigation criteria but needs some improvement	Meets some navigation criteria but lacks in others or needs a lot of improvement.	Meets little to no navigation criteria.

Comments:

Metric 3: Graphical representation

Criteria: Across Entire Site

- Utilizes icons, contrasting colors, and images
- Proper image size and resolution
- Proper color, font, and size of text

17 - 20 points	11 - 16 points	5 - 10 points	0 - 4 points
Meets all or nearly all graphical representation criteria	Meets most graphical representation criteria but needs some improvement	Meets some graphical representation criteria but lacks in others or needs a lot of improvement	Meets little to no graphical representation criteria.

Website: _____

Metric 4: Organization

Criteria: Across Entire Site

- Logical and understandable structure
- Information arrangement and categorization
- Meaningful labels/headings/titles

17 - 20 points	11 - 16 points	5 - 10 points	0 - 4 points
Meets all or nearly all organization criteria	Meets most organization criteria but needs some improvement	Meets some organization criteria but needs a lot of improvement	Meets little to no organization criteria.

Comments:

Metric 5: Ease of use

Criteria: Across Entire Site

- Low level of cognitive effort needed
- Common website processes
- Simple processes

17 - 20 points	11 - 16 points	5 - 10 points	0 - 4 points
Meets all or nearly all ease of use criteria	Meets most ease of use criteria but needs some improvement	Meets some ease of use criteria but lacks in others or needs a lot of improvement	Meets little to no ease of use criteria.

Comments:

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