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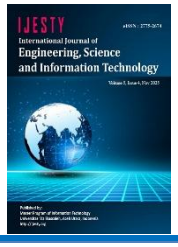

Visual Design Optimisation for Increased Conversion Rate on Digital Platforms

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Abstract

In the ever-evolving digital age, visual design optimisation has become an important focus for companies operating on digital platforms. Attractive, brand-appropriate visual design can influence user perception and increase engagement and conversions on the platform. This study aims to investigate the influence of visual design variables, including design quality and information engagement, on user engagement and conversion rates on digital platforms. The Structural Equation Modelling (SEM) method with SmartPLS was used to analyse data from online surveys involving respondents using digital platforms. The results of the analysis show that the quality of visual design has a significant influence on user engagement and conversion rates, while informational engagement also contributes positively to user engagement. The implication of these findings is the importance of paying attention to visual design and effective information delivery in improving user interaction and achieving business goals on digital platforms. The study provides valuable insights for digital platform developers and graphic design professionals in designing engaging and effective user experiences.

Keywords: *Visual Design, Digital Platform, User Engagement, Conversion Rate, Optimization.*

1. Introduction

In the rapidly evolving digital era, digital platforms have become one of the main means for companies to interact with customers and increase sales [1]. Amid increasingly fierce competition, visual design optimisation is an important key in efforts to increase conversion rates, which is an indicator of success in converting visitors into active customers. Attractive and brand-appropriate visual design can influence users' perception of a company's credibility and professionalism, and encourage higher interaction with digital platforms. However, even though the importance of visual design is widely recognised, it still needs an in-depth study to comprehensively understand how these visual design variables contribute to increased conversion rates [2].

Previous research has highlighted the relationship between certain aspects of visual design, such as design quality and brand viability, and user response and business performance. However, there is still a need for more focused research to explore specifically how visual design can be optimised to achieve specific business goals, such as increasing conversion rates [3]. In this context, this study aims to fill the knowledge gap by utilising sophisticated analytical methods, namely Structural Equation Modelling (SEM) using SmartPLS software.

Through this approach, this research is expected to provide a deeper understanding of the role of visual design in increasing conversion rates on digital platforms. The findings from this study are expected to provide practical guidance for companies in designing effective visual design strategies to achieve their business goals in the ever-changing digital age. Thus, this research has significant relevance in the context of digital marketing strategy development and overall user experience optimisation [4].

2. Literature Review

2.1. Graphic Design Theory and Its Effects on User Behaviour

Graphic Design Theory and Its Effects on User Behaviour is becoming an important foundation in understanding how visual elements can affect user interaction and response in the digital environment [5]. According to graphic design theory, elements such as aesthetic quality, brand fit, structured layout, and colour selection can provide an alluring visual experience for users. For example, according to the Gestalt principle, design elements that are arranged regularly and symmetrically tend to give a more unified impression and make it easier for users

to understand information [6]. Likewise, colour theory highlights the importance of colour selection that suits consumer psychology, where certain colours can trigger certain emotions and reactions in users. By understanding these theories, designers can create visual designs that are more effective in grabbing users' attention and influencing their behaviour.

In addition, empirical research has also confirmed the influence of graphic design theory on user behaviour in the digital environment [7]. Various studies have shown that high-quality visual design can increase user interaction rates, improve information retention, and even drive conversions. For example, research on the effectiveness of digital advertising has found that ads with attractive and relevant visual designs tend to be more effective at grabbing users' attention and triggering the desired response. Thus, this literature review provides a deep understanding of how graphic design theory can be applied in a digital context to achieve specific business goals, such as increasing user engagement and conversions [8].

2.2. Quality of Visual Design and Its Impact on User Response

The role of Visual Design Quality in influencing User Response on digital platforms has become a major focus in graphic design and user experience (UX) research. The quality of visual design encompasses a wide range of aspects, including aesthetics, consistency, clarity, and brand fit, all of which can affect the way users interact with a product or service online. Previous research has shown that attractive and professional visual design can increase user engagement, extend visit duration, and increase the likelihood of conversion [9]. In addition, poor or unattractive visual design quality can cause users to quickly abandon a website or app, which can ultimately hurt a business in terms of lost sales opportunities and a bad reputation.

Various factors have been identified in the literature that affect the quality of visual design and user responsiveness [10]. For example, research has highlighted the importance of design conformity to a company's brand identity, as this can build user trust and enhance the impression of professionalism. In addition, technical aspects such as page loading speed, intuitive navigation, and design responsiveness to various devices also play an important role in determining a satisfactory user experience. By understanding these factors, designers can direct their efforts to improve the quality of visual design in the most effective ways to achieve business goals, such as increasing user conversions and retention.

2.3. Branding and Visual Identity

Branding and Visual Identity are important aspects in graphic design that directly affect the way users perceive a brand and their interaction with a company's products or services [11]. Brand visual identity includes elements such as logos, colours, typography, and other graphic elements that are consistently used in brand communication. Studies have shown that the fit between visual design and brand identity can help create a cohesive and trusted impression for users, which in turn increases brand loyalty and consumer trust [12]. For example, one study found that brands that have a strong visual identity tend to be more easily recognisable to consumers and have stronger positive associations with quality and reliability.

In addition, visual branding also plays a role in differentiating brands from competitors in a crowded market. By having a unique and distinct visual identity, companies can create greater appeal to their target audience and build a stronger brand image [13]. Aspects such as the use of colours, typography, and other design elements can be used to express brand values, create certain emotions, and grab the user's attention. Therefore, a literature review on branding and visual identity highlights the importance of consistency and precision in designing visual elements for brands, as well as their impact on consumer perception and overall business success.

2.4. User Experience (UX) and Interaction Design

User Experience (UX) and Interaction Design play a key role in ensuring that users have a satisfying and efficient experience when interacting with digital platforms [14]. User Experience (UX) refers to the overall user experience of using a product or service, including aspects such as usability, satisfaction, and emotional interaction. Interaction design, on the other hand, is concerned with the way users interact with interface elements, such as buttons, menus, and navigation flows. UX research has shown that good interaction design can improve user efficiency, reduce user errors, and improve overall user satisfaction [15].

Studies of UX and interaction design have identified design principles that are essential to ensuring a positive user experience. One of the key principles is usability, which includes ease of use and efficiency in accomplishing the tasks that users want. In addition, aspects such as interface consistency, clear system feedback, and intuitive settings also contribute to a good user experience [16]. These studies highlight the importance of understanding user needs and preferences in designing effective interaction designs, as well as ensuring that interfaces are used as tools to facilitate seamless and satisfying interactions.

2.5. The Impact of Mobile-Friendly Design on User Engagement

The influence of Mobile-Friendly Design on User Engagement has become an important focus in an era where mobile device usage increasingly dominates internet access [17]. The mobile-friendly design ensures that the user experience remains consistent and optimised, regardless of the device the user is using. Studies have shown that users tend to abandon websites or apps that aren't optimised for mobile devices, due to navigation difficulties, unresponsive displays, or slow loading times. Therefore, mobile-friendly design is not only important to ensure accessibility for mobile device users, but also to maintain and increase user engagement [18].

Studies on the effect of mobile-friendly design on user engagement have highlighted the benefits of companies that implement responsive and adaptive design [19]. For example, responsive design can increase user retention rates by ensuring that users can easily navigate a website or app from a variety of devices, without experiencing technical difficulties or unsatisfactory experiences. In addition, mobile-friendly design can also speed up page loading times, which can minimise user rejection rates and increase the likelihood of conversion [20]. By prioritising mobile-friendly design, companies can increase user engagement and maintain their competitiveness in an ever-changing digital environment.

3. Methods

The method used in this study is Structural Equation Modelling (SEM) using SmartPLS software. SEM is a powerful statistical analysis technique that allows researchers to examine complex relationships between variables observed in conceptual models. SmartPLS was chosen as the primary analysis tool because of its ability to handle relatively small datasets and its ability to address multicollinearity and

non-normality issues in data. The first step in using SmartPLS is to develop a conceptual model based on research hypotheses and related literature. The model reflects the relationships between observed variables, including independent, mediator, and dependent variables.

Table 1. Research Variables

Variable Name	Variable Description
Visual Design Quality (KDV)	Assess the extent to which visual design on digital platforms meets aesthetic and functionality standards.
Information Engagement (IC)	Measures how easily information can be understood by users from a given visual design.
User Engagement (KP)	Measure the level of interaction and responsiveness of users to visual design.
Conversion Rate (CR)	The percentage of users who converted (e.g. purchase or sign-up) after exposure.

Once the conceptual model is developed, the next step is data collection. Data were collected from respondents involved in the study through online surveys or in-person interviews, depending on the data collection method that best suited the study. Respondents were asked to respond to questions related to variables observed in the model, such as their perception of visual design quality, user engagement rates, and successful conversions achieved on relevant digital platforms. Once the data is collected, statistical analysis is performed using SmartPLS. The software will be used to empirically test conceptual models, measure model fit, and evaluate the significance of coefficients between variables in the model.

The results of the analysis from SmartPLS will provide a deeper understanding of the relationship between the variables observed in this study. This will help in testing the proposed research hypotheses and provide a better understanding of how visual design can affect user engagement and conversion rates on digital platforms. By utilising the SmartPLS method, it is hoped that this research will make a valuable contribution to the literature on digital business and graphic design, as well as provide practical guidance for companies in designing effective visual design strategies.

4. Results and Discussion

Table 2 displays the results of path analysis using SmartPLS to clarify the relationship between the variables observed in this study. The findings show a strong relationship between visual design quality and user engagement and conversion, confirming the dominant role of visual design quality in improving user interaction and conversion rates on digital platforms.

Table 2. Results of Model Path Analysis using SmartPLS

Relationship	Path Coefficient	Information
KDV – > KP	0,692	Very strong relationships
KI – > KP	0,228	Positive relationships
KP – > CR	0,543	Strong relationships
KDV – > CR	0,769	Very strong relationships
KI – > CR	0,208	Positive relationships

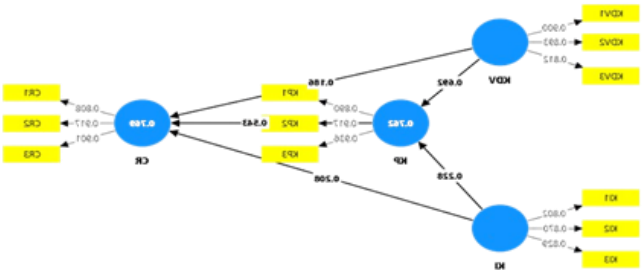

Fig 1. The results of model analysis using SmartPLS

The results of model analysis using SmartPLS show several important findings regarding the influence of Visual Design Quality (KDV), Information Engagement (IP), and User Engagement (KP) on Conversion Rate (CR) on digital platforms. First, there is a strong and significant relationship between KDV and KP, with a path coefficient of 0.692. This suggests that improvements in the quality of visual design can significantly increase user engagement. High-quality visual design not only grabs users' attention but also facilitates deeper interaction with the platform, which ultimately contributes to greater user engagement.

Furthermore, Information Engagement (IP) also has a positive influence on User Engagement (KP), albeit with a lower coefficient (0.228). This suggests that the ease with which users understand the information presented through design also plays a role in increasing user engagement, but the impact is not as strong as the quality of visual design. Therefore, although important, the quality of the information conveyed must be combined with the quality of high visual design to achieve an optimal level of user engagement.

Further analysis shows that User Engagement (KP) has a significant impact on Conversion Rate (CR), with a path coefficient of 0.543. This confirms that higher user engagement is the key to increasing conversions. Effective user engagement serves as an important mediator

between visual and informational design with the final conversion result, affirming the importance of creating designs that are not only visually appealing but also interactive and informative.
In addition, KDV has a very strong direct influence on CR, with a path coefficient of 0.769. This shows that the quality of visual design has a greater contribution to the increase in conversion rate compared to other factors. Meanwhile, the direct effect of KI on CR was also positive (0.208), although relatively smaller. This shows that while effective information is important, the quality of visual design has a more dominant role in influencing users' decisions to convert.
The implications of the results of this study are particularly relevant for digital platform developers and graphic design professionals. The findings emphasise the importance of integrating high-quality visual design with effective information delivery to maximise user engagement and increase conversion rates. The contribution of this research to the literature is to show empirical evidence supporting the importance of visual design elements in digital marketing strategies and user experience management. Thus, the study not only fills in knowledge gaps but also provides practical guidance that businesses can use in designing and optimising their digital platforms to generate higher conversions.

5. Conclusion

This research reveals the importance of optimal visual design in increasing user engagement and conversion rates on digital platforms. The findings show that the quality of visual design has a significant influence on user engagement, which in turn affects conversion rates. Similarly, informational engagement also plays an important role in increasing user engagement, albeit with a lower impact than the quality of visual design. This research implies that companies and digital platform developers need to pay special attention to aspects of visual design and ease of information in an effort to improve user interaction and achieve their business goals. By understanding these factors, companies can design more engaging and effective user experiences, which can ultimately improve conversions and overall business success in the ever-evolving digital age. In addition, the study contributes to the literature by providing empirical evidence supporting the importance of visual design in digital marketing strategies and providing practical guidance for practitioners and academics in optimising digital platforms to achieve their business goals.

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