

**INTEGRATING CULTURE IN USER EXPERIENCE DESIGN IN THE
INDIAN CONTEXT**

**BY
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by

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Certificate

This is to certify that the thesis titled, “**Integrating Culture in User Experience Design in the Indian context**”, being submitted by Ms. Surbhi Pratap to the Indian Institute of Technology Delhi for award of the degree of Doctor of Philosophy has been carried out under my supervision.

The research work contained in this thesis has not been submitted in part or full to any other university or institute for award of any degree or diploma.

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Abstract

Culture is rooted in our history, where we live, and what we value. Design, on the other hand, involves the act of intervention to meet human needs. Culture and purposeful design are inextricably linked and have evolved together from prehistoric times to the present day.

This thesis argues that cultural considerations during the design process may assist User Experience (UX) designers in developing culturally suitable products. This is especially relevant in culturally diverse and technologically emerging nations like India. Incorporation of user culture into the design process using research-based assistance to professionals, such as design guidelines may help in this. For this thesis, eight experimental studies were undertaken, and their combined insights resulted into a theoretical model that proposes how to integrate culture in the user experience design process. The first study in this thesis developed a framework based on prevalent literature that helps to assess the cultural disposition of a website design. Second study has identified five culturally distinct regions within India based on previous research and identified cultural dimensions of each region through a survey. The third study has investigated ramifications of Indian cultural diversity on website designs via content analysis of websites from different Indian regions. Fourth study of this thesis has examined prevalent culture models together with Garrett's model of UX design, to develop design guidelines for cultural suitability within India. In the fifth study, these guidelines were used to develop culturally suitable website design concepts and their efficacy is tested using a preference test with users from distinct cultural regions in India. Sixth study was a neuro-physiological experiment to observe the design thinking process by comparing differences in brain activities of UX- designers while they designed website concepts for a given user persona with and without guidelines. In the seventh study, this thesis has investigated design processes being utilised in the Indian UX industry and identified its affordances, challenges and prospects through interviews of 73 Indian UX design leaders. This study also noted the industry's expectations from fresh design graduates. Eighth study of this thesis presents a longitudinal investigation with novice designers to explore how introducing the idea of culture in design affects their design process. It also examined how the cultural background of designers affected their design process.

The cumulative understanding of all the above studies led to development of a theoretical model that proposed how to integrate culture throughout the user experience design process. This thesis concludes that including cultural sensitivity into the design process results in development of culturally sensitive products, which can lead to enhanced user experiences.

सारांश

संस्कृति हमारे इतिहास में निहित है, जो परिभाषित करती है कि हम कहाँ रहते हैं, हम कैसे व्यवहार करते हैं और हम किन चीजों को महत्व देते हैं। दूसरी ओर, डिजाइन हस्तक्षेप के माध्यम से मानवीय आवश्यकताओं और इच्छाओं को पूरा करने में मदद करता है। संस्कृति और उद्देश्यपूर्ण डिजाइन एक दूसरे से अटूट रूप से जुड़े हुए हैं और प्रागैतिहासिक काल से लेकर आज तक एक साथ विकसित हुए हैं। इस शोध प्रबंध का तर्क है कि डिजाइन प्रक्रिया के दौरान सांस्कृतिक विचार सांस्कृतिक रूप से उपयुक्त उत्पादों को विकसित करने में उपयोगकर्ता अनुभव (यूएक्स) डिजाइनरों की सहायता कर सकते हैं। यह भारत जैसे सांस्कृतिक रूप से विविध और तकनीकी रूप से उभरते देशों में विशेष रूप से प्रासंगिक है। इस शोध प्रबंध के लिए, आठ प्रायोगिक अध्ययन किए गए, और उनकी संयुक्त अंतर्दृष्टि के परिणामस्वरूप एक सैद्धांतिक मॉडल तैयार हुआ जो प्रस्तावित करता है कि उपयोगकर्ता अनुभव डिजाइन प्रक्रिया में संस्कृति को कैसे एकीकृत किया जाए।

पहले अध्ययन ने प्रचलित साहित्य के आधार पर एक रूपरेखा विकसित की जो वेबसाइट डिजाइन के सांस्कृतिक स्वभाव का आकलन करने में मदद करती है। दूसरे अध्ययन में भारत के भीतर पांच सांस्कृतिक रूप से अलग क्षेत्रों की पहचान की गई है और एक सर्वेक्षण के माध्यम से प्रत्येक क्षेत्र के सांस्कृतिक आयामों की पहचान की गई है। तीसरे अध्ययन में विभिन्न भारतीय क्षेत्रों की वेबसाइटों के तत्व विश्लेषण के माध्यम से वेबसाइट डिजाइन पर भारतीय सांस्कृतिक विविधता के प्रभाव की जांच की गई है। चौथे अध्ययन ने प्रचलित संस्कृति मॉडल और गैरेट के यूएक्स डिजाइन के मॉडल के आधार पर भारत में सांस्कृतिक उपयुक्तता के लिए डिजाइन दिशानिर्देश विकसित किए हैं। पांचवें अध्ययन में, इन दिशानिर्देशों का उपयोग करके सांस्कृतिक रूप से उपयुक्त वेबसाइट डिजाइन विकसित किए गए हैं और भारत के विभिन्न सांस्कृतिक क्षेत्रों के उपयोगकर्ताओं के साथ वरीयता परीक्षण का उपयोग करके उनकी प्रभावकारिता का परीक्षण किया गया है। छठा अध्ययन एक न्यूरो-फिजियोलॉजिकल प्रयोग है, जिसमें यूएक्स-डिजाइनरों की मस्तिष्क गतिविधियों में अंतर की तुलना करके डिजाइन सोच प्रक्रिया का अवलोकन किया गया, जब उन्होंने किसी दिए गए उपयोगकर्ता व्यक्तित्व के लिए दिशानिर्देशों के साथ और बिना दिशानिर्देशों के वेबसाइटें डिजाइन कीं। सातवें अध्ययन में भारतीय यूएक्स उद्योग में उपयोग की जा रही डिजाइन प्रक्रियाओं की जांच की गई है और 73 भारतीय यूएक्स डिजाइन प्रमुखों के साक्षात्कार के माध्यम से इसकी चुनौतियों और संभावनाओं की पहचान की गई है। यह अध्ययन नए डिजाइन स्नातकों से उद्योग की अपेक्षाओं पर भी प्रकाश डालता है। आठवां अध्ययन डिजाइनरों के साथ एक अनुदैर्घ्य जांच प्रस्तुत करता है ताकि यह पता लगाया जा सके कि डिजाइन में संस्कृति का परिचय उनकी डिजाइन प्रक्रिया को कैसे प्रभावित करता है। इसने यह भी जांचा कि डिजाइनरों की सांस्कृतिक पृष्ठभूमि ने उनकी डिजाइन प्रक्रिया को कैसे प्रभावित किया।

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Glossary

1. **Culture:** The customs, ideas and beliefs of a particular society or a country. (Oxford Languages). Collective programming of mind that distinguishes one category of people from another (Hofstede). Culture models in literature are based on materials, values, behaviour, proxemics, communication, geography etc. This study focuses on cultural differences due to geography, communication, and behaviour.
2. **Cultural diversity:** It refers to the multiplicity of identities within groups and societies (Bennett, 1999).
3. **Cultural sensitivity:** It is an awareness of cultural similarities and differences and how they might affect beliefs, values, behaviour and learning (Stafford-Robinson, 1999).
4. **Cultural suitability:** Appropriateness and relevance of a design artefact to users owing to their cultural backgrounds.
5. **UX Design:** User experience (UX) design is the method design teams use to build goods, systems, and services that elicit meaningful and relevant user responses. UX design is the process of creating a product's visual identity, user interface, and overall experience with the goal of easing the user's challenges and enhancing their satisfaction.
6. **UI Design:** User interface (UI) design creates easy-to-use, appealing, and trustworthy interfaces that express brand values in software and computers. User interfaces can be graphical, voice-controlled, or gesture-driven.
7. **User Preferences:** A greater liking for one alternative over others. It may be due to perceived utility, aesthetics, or ease of use.
8. **Interface:** The point where two subjects, systems, etc. meet and affect each other. The way a computer program presents information to or receives information from the person who is using it, the layout of the screen and the menus (Oxford Languages).
9. **Design Process:** Journey of a designer to solve the 'wicked problems.' This study uses the popular 5 step process (IDEO+D-school) of Empathise → Ideate → Prototype → Test → Iterate.
10. **Guidelines:** official advice or rules on how to do something (Oxford Languages). A recommendation intended to advise people on how something should be done.
11. **Framework:** a system of rules or ideas which help you decide what to do (Oxford Languages).