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Cultural Influence on Mobile App Design-A Theoretical Review of Culture Theories and Their Influence on App Design in China

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Abstract

The objective of this paper is to provide a theoretical overview if and how national culture influences the design of mobile applications especially in comparison of typical Western and Chinese market. First classic culture theories by Hofstede and Trompenaars will be analysed to examine which dimensions might have potential influence in app design. Additionally, the factor colour will be examined as different cultures perceive colours in a different way. The conclusion on the possible impact of culture on the design of mobile applications explains why culture plays such an important role on mobile application design.

Keywords

Cultural Dimensions; Mobile App Design; National Culture.

JEL Classification:

M14, F23, M16, L86.

Introduction

In this global village, culture or in this case national culture is a crucial issue that guides application developers and designers to create collaborative applications. Mobile applications (apps) are programs used for specific purposes. Presently, mobile apps provide content and services to individual users and serve as representatives of company brands. China is one of the countries with the largest mobile application markets in the world. The number of Chinese netizens has massively increased over the years, with the majority using smartphones to access and use the internet [1]. If national culture affects mobile app design is therefore a crucial question not only for local developers but also for brands trying to enter Chinese market. The aim of this paper is to review why and how current cultural theories e.g., by Hofstede and Trompenaars are useful in understanding the concept of culture and how the cultural theories as well as additional factors like the usage of colour which are also very dominant in Chinese national culture influence mobile app design in China. In the first chapter the author will therefore review Hofstede's cultural dimensions and how they connect to mobile app design. The second chapter will review Trompenaars theory of cultural dimensions. Both

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approaches are regarded as the widely referred to cultural theories and will be reviewed against recent discussions and their potential influence on app design. The third chapter will highlight the cultural influence of colour usage in China in general and on a closer look why the colour choice for app design is important and how this importance can be seen in Chinese apps. Based on the review of cultural theories and usage of colour the author will discuss the need for a different app design and close this paper with a recapture and conclusion.

Hofstede's Cultural Dimensions

Hofstede is one of most famous cultural theorists that suggested various dimensions to explain the concept of culture. Hofstede's cultural dimensions are an effective tool in understanding cultural differences. It is useful in better comprehension of the effect of specific cultures. Hofstede's cultural dimensions include power distance, masculinity-femininity, individualism and collectivism, uncertainty avoidance, and short-term and long-term orientations. Power distance dimension is the extent to which less powerful individuals expect and accept the unequal distribution of power. Power distance means that both leaders and followers have to approve the society's measure of inequality [2]. Precisely, the power dimension is the humanity inequality in a country's structure. For instance, in nations like China, individuals are differentiated by their status in society. China ranks at the top in terms of power distance dimension; hence, inequalities amongst countries are acceptable. However, the association between superiors and their subordinates is contradictory [3]. High power distance individuals tend to show less favourable opinion towards experimenting with innovative technology solutions [4]. Whereas a high power distance implies that individuals have accepted a given hierarchical order and inequalities associated with it, a low power distance means that people with less power focus on equality power distribution. The power distance dimension is useful in explaining cultural differences in service provision [5]. Therefore, it is crucial to understand the cultural influence on the design of mobile applications.

Individualism versus collectivism is the extent to which people are integrated into social networks. The individualism dimension explores the persons in a culture that prefer to act as individuals instead of collective group members [2]. Individualistic cultures act on their needs and desires, and importantly, make their own decisions. Specifically, they prioritize their well-being and are responsible for themselves and their choices. Instant messaging is one of the applications that is greatly affected by cultural norms and values. Hofstede's individualism versus collectivism dimension influences the practice of instant messaging. For instance, Chinese users of instant messaging tend to prefer group chat options and implicit communication [6]. Notably, persons with a greater propensity for individualism tend to use online mobile services to showcase their personality and achieve personalized objectives [7]. Uncertainty avoidance affects mobile app design in that individuals exhibiting high levels of uncertainty avoidance tend to avoid ambiguous situations. Precisely, they perceive new technology to be difficult to use [7]. Collectivism refers to a cultural value indicating a robust social framework where individuals perceive the group as the primary entity. Likewise, it views the group as a critical element and people

as just members [7]. Collective cultures act according to the interest of the groups. As such, they decide based on other people's opinions and not individual desires. The Chinese culture is collectivist, and family is considered a fundamental social entity [7]. Precisely, the Chinese act in the interests of the group [3]. Also, the Chinese are group-oriented, and persons perceive themselves as a part of a group. Collectivism is expressed via honour, loyalty, and dignity in society [3]. Therefore, individualism and collectiveness are crucial in understanding different cultures.

Uncertainty avoidance is the tolerance of an unknown future. Precisely, it refers to the degree to which individuals tolerate risk, ambiguity, or feel threatened by novel situations in society [6]. While some may consider uncertainty as a regular occurrence in daily life, others perceive it as something that individuals should not experience. In cultures with high uncertainty avoidance, individuals tend to stick to what they know and avoid unusual behaviours. Specifically, high uncertainty avoidance culture is characterized by novel situations where individuals are reluctant to consider unknown conditions and seek security [7]. Contrarily, cultures with low uncertainty avoidance tend to welcome change. China scores low in Hofstede's cultural dimension of uncertainty avoidance. The implication is that the Chinese are not afraid of exploring unknown situations. Even though the relationship is of great significance in this culture, the pursuit of immediate riches overcomes individuals' regard for ethical behaviour and the desire for future orientation.

Masculinity versus femininity is concerned with how gender roles define individual preferences in society. [2] posit that masculinity and femininity cultural dimensions are expected gender roles in leadership expectation. In this light, masculinity is associated with strength and aggressiveness, while femininity is related to kindness and care. Accordingly, masculine individuals are assertive and competitive [6]. Therefore, in terms of masculinity, China is a masculine society where individuals are success-driven; thus, many Chinese prefer to work over family [3]. Whereas masculine cultures are competitive, their feminine counterparts tend to be consensus-oriented.

Another dimension, long versus short-term time orientation, is concerned with how the society focuses and pays efforts on the future or the past and present. Short-term orientation is concerned with whether cultures show a future-oriented or a short-term perspective [6]. In countries like China, there is a high long-term orientation.

Indulgence versus restrain dimension is the last cultural dimension that Hofstede introduced recently. It refers to the degree to which individuals try to control their desires based on their upbringing. Primarily, this dimension focuses on happiness. Weak and robust control implies indulgence and restrains, respectively. Precisely, opulence describes a society that allows the gratification of human drives associated with enjoying life and having fun. On the contrary, restrain describes a society that suppresses gratification of needs through regulation using strict social norms. Based on this dimension, China is a restrained society characterized by pessimism and cynicism.

Trompenaars' Cultural Dimensions

Trompenaars' cultural dimensions model helps in dealing with individuals of diverse cultures. The model comprises seven dimensions of culture: universalism/particularism, individualism/communitarianism, and specific/diffuse. Other dimensions are

neutral versus affective, achievement versus ascription, sequential versus synchronous time, and internal versus external direction [8].

Universalism vs. particularism: Universalism cultures equalize all situations, and they are more concerned with the rules than relationships. Contrastingly, cultures based on particularism prioritize relationships. There is a universal application of laws in universalist cultures, and society expects its occupants to follow them always. In particularistic societies, individuals are allowed to except from rules based on their status, circumstance, or relationships between individuals involved [9]. Therefore, this is a significant dimension in understanding cultural influence on mobile apps' design and use. In China, particularistic culture dominates as individuals' value relationships more than rules.

Individualism vs. communitarianism: This dimension entails functioning as an individual or as a group. Individualistic cultures believe that individuals' outcomes in life result from their life choices. Individualistic societies are more likely to embrace universalism, while communalists societies are particularisms [9]. Generally, in individualism, people enjoy personal freedom and achievement and make their own decisions. In this culture, success is attributed to individual performance and not group input. Contrarily, communitarianism cultures believe that quality of life is better when individuals assist each other. Precisely, the group is essential compared to the individual. As such, people operate in groups and have a strong sense of loyalty within the groups. There is an avoidance of personal favouritism, and decisions emanate from groups. China ranks high in the communitarianism dimension. The implication is that the Chinese act in the best interest of the group and not themselves. Consequently, they tend to interact freely without conflicts and live harmoniously.

Specific vs. diffuse: Within a particular culture, individuals do no mix their work and personal lives. Therefore, they are focused on their communications and achieving the goals compared to relationships. In such cultures, individuals believe that relationships have no effect on objectives in the workplace. Contrarily, in diffuse cultures, people consider their work and personal life interconnected. In this regard, these individuals hold that healthy relationships can help achieve objectives effectively. Therefore, in diffuse cultures, individuals working together can socialize when they are out of the workplace. China is a diffuse culture as individuals discuss personal issues like family, hobbies, travel, or even salary. Further, private relationship building is crucial in business transactions.

Neutral vs. affective: In a neutral culture, individuals tend not to share their emotions instead of affective cultures where sharing emotions is normal. Precisely, in neutral cultures, individuals focus on controlling their emotions to mask their feelings or thinking. However, in affective cultures, people express their feelings, manage conflicts, and convey emotions via body language. Chinese society is affective as the preferred behaviour is vivid and full of expression. People reveal their feelings quickly; hence, reducing the tension and creating a positive relationship [8]. Affective cultures allow individuals to be expressive, which helps build trust and, subsequently, manage conflicts effectively.

Achievement vs. ascription: The dimension focuses on how individuals seek to control their lives over destiny. In achievement culture, individuals earn status via knowledge or skills. Contrarily, in ascription culture, people acquire status based on who they are, implying that people gain status due to their age, social status, or

education. China is an ascriptive culture where individuals' status plays a significant role in businesses. Besides, age and kinship are crucial factors when dealing with other individuals. As such, superior individuals are respected in society by everyone, regardless of their personal feelings.

Sequential time vs. synchronous time: This involves individuals' preference to do many things at once or one thing after the other. In sequential time culture, people prioritize time and that everything is completed on time. On the other hand, in synchronous time, individuals perceive the past, present, and future are intertwined since people do many things at once. China is a sequential time-oriented culture where punctuality is prioritized as time is valued. Therefore, everything is done accordingly without unnecessary delays.

Internal direction vs. external direction: In internal direction cultures, individuals hold that they can manage their environment to attain their goals. With aggressive personalities, people in these cultures prioritize winning. In contrast, in external direction culture, individuals are convinced that they have to integrate the game's environment to achieve their goals. Besides, in such cultures, people value a strong relationship compared to winning. Chinese culture is internal as individuals embrace living in harmony with the environment.

Colour Influences

Colour is an essential element of app designs. Specifically, using the right colour gives users an idea of the app's purpose. Hence, allowing them to navigate and utilize an app efficiently. The colour used in designing an app can make it stand out in the market and play a crucial role in its success. Notably, colours used in the app infuse throughout its design. Therefore, a well-put colour scheme can offer an exceptional visual experience for users and provides a competitive edge over similar apps in the market. Colour is one of the significant attributes that influence the adoption of a mobile app [6]. Colours attract user's attention and increase brand recognition. Also, they affect the thinking and behaviours of users. Apart from the user-friendly interface, colour is a vital dimension of the app design and app store optimization.

In China, red colour is widely used as it represents happiness and luck. The colour red is everywhere in the country, including on different brands, packaging, and advertisements. Precisely, red has a strong positive connotation in China. For instance, China's WeChat app has a red packet function that is a digital version of the Chinese Lunar New Year tradition of hong bao [10]. In this light, the red envelopes in WeChat are an indication of the significance of the red colour in Chinese red colour design and schemes. Also, the Chinese associate red with prosperity and joy, as well as passionate and aggressive feelings. In format, red colour is useful in drawing the attention of the uses. Furthermore, an icon in the form of red circles is widely applied in the user interface of Chinese mobile apps. Specifically, it is useful in displaying the number of unread incoming texts or indicating the current updates or news. Given the importance of colour in the user interface, designers need to effectively plan and use colours within mobile apps. In terms of mood, the red colour in mobile apps represents youth, buoyancy, and influence.

The Need for Different App Design

The influence of culture on mobile app design is increasingly becoming important as the world market continues to be globalized.

While designing a mobile app, the focus should be on its cultural effects. Notably, culture is a collective programming of the mind that distinguishes a given group of individuals from others. The implication is that people from different cultures are different in their perceptions, thinking, cognition, and values. Therefore, designers and developers must understand different cultural traits in designing mobile apps, especially for international users. Notably, cultural values are essential in the usability of a given app and post-adoption behaviour of individuals [11]. Cultural beliefs and values are crucial for understanding user interaction [12]. Given the different cultural backgrounds in China and other countries like the United States, app developers should establish differently or adapt their mobile apps in specific market versions. For instance, in China, individuals have a 'one for all' preference, implying that they utilize a given application for multiple purposes [13]. In this light, Wechat is the most popular app in China widely used by individuals to communicate. WeChat is a Chinese mobile application introduced in the market in 2011 as an instant messaging app. WeChat has more than 700 million users. It lies in its integrated user experience instead of the services' usability and quality as a standalone [10]. Although it was initially created for personal communication purposes, it has emerged as a multi-functional app that individuals use to communicate, socialize, shop, online payment, play games, and share information [13]. Moreover, Chinese consumers are more likely to choose apps that feature their favourite celebrities and brands. Therefore, it is evident that the cultural dimension affects the adoption of mobile applications.

Conclusion

Culture is a significant factor that influences the design of mobile applications. Hofstede and Trompenaars' cultural dimensions are useful in understanding diverse cultures. Hofstede presents six cultural dimensions that explain the traits of different cultures. Based on Hofstede's cultural dimension, China ranks high in power distance. Also, it is a collectivist and masculine culture, and it has a high long-term orientation. Finally, China is a restrained society where there is intense control of individual desires and ranks low in uncertainty avoidance. Likewise, in terms of Trompenaars' cultural dimension, China is a particularistic, communitarianism, diffuse, affective, and ascriptive culture. Besides, it is a sequential time-oriented and internal-directed culture. There is a need for different app designs due to cultural diversity in society, significantly impacting mobile app designs. Cultural values are crucial in the usability of a given app; hence, it is imperative to comprehend different cultural traits while designing mobile applications. Besides, different app designs are necessary since other countries have diverse cultural backgrounds. China has developed different mobile apps such as WeChat, which allow a significant number of individuals to communicate, interact, shop, and share data. Chinese are likely to use mobile apps that feature their favourite brands and celebrities. Importantly, colour is a significant element in the design of mobile apps. It makes an app more noticeable and attractive. In China, the colour red is widespread, associated with happiness, aggressiveness, and luck. Even in mobile app designs, red is used mostly like in the case of WeChat's red envelop. Further, red circles are used in Chinese mobile apps' user interface to display unread incoming messages or show updates. Overall, cultural influence on mobile app designs is a critical factor that should be prioritized by designers and developers when creating different mobile applications.

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