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Research on the Domestication Status of Smart Media in Ethnic Minority Areas: Postprint

Authors: Liu Jiayi

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Abstract

With the proliferation of the Internet of Things, mobile devices, and the development of smart homes, smart home systems, as one of the applications of the Internet of Things, have attracted widespread attention; media is becoming increasingly domesticated, and media is also making homes more intelligent, internationalized, and fashionable, making home life more convenient and comfortable; the domestication of smart media is indeed the trend and direction of future media development. This paper analyzes the current development status of smart media domestication and the development issues of smart home systems through a survey of the domestic usage of smart media in ethnic minority regions.

Full Text

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Research on the Domestication Status of Intelligent Media in Ethnic Minority Regions

Abstract: With the popularization of the Internet of Things (IoT), mobile devices, and the development of smart homes, smart home systems— as an IoT application—have attracted widespread attention. Media are becoming increasingly domesticated, while simultaneously making homes more intelligent, internationalized, and fashionable, thereby rendering domestic life more convenient and comfortable. The domestication of intelligent media represents the future trend of media development. Through an investigation of intelligent media usage in domestic settings within ethnic minority regions, this paper analyzes the current development status of intelligent media domestication and the developmental challenges facing smart home systems.

Keywords: Ethnic minority regions; Intelligent media; Domestication

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Author: Liu Jiayi

1.1 Overview of Smart Homes

Smart homes refer to the use of intelligent media to connect domestic facilities through sensors that receive data and transmit it back to smart terminals, thereby achieving home automation. These terminals are primarily controlled by Android and iOS operating systems. While smart terminals serve as platforms for receiving and interacting with information, they are not themselves intelligent media. Rather, intelligent media encompasses the software running on these terminals and the content they disseminate, representing a synthesis of technical and content layers. Intelligent media possesses capabilities for intelligent perception, data mining, and data push, with apps on smart terminals serving as the control hub for human-computer interaction. The key to smart homes lies in the control system's ability to perceive environmental and scene changes throughout the home and automatically make corresponding adjustments to ensure a safe and comfortable domestic environment.

Although China's smart home media started relatively late, it has developed rapidly. Since the late 1990s, major home appliance manufacturers such as Haier and TCL have launched their own product lines. In addition to collaborations with international brands, China has also achieved significant success in independently developing smart home technologies. According to recent statistics, smart TV market penetration has reached 50 percent. As smart TVs continue to improve and multi-screen interaction technology advances, they have gradually become a favorite among consumers, subsequently transforming family viewing habits and establishing the smart large screen as an important entertainment terminal in households. Furthermore, the University of Science and Technology of China has released China's first unique interactive robot, "Jiajia," which can use instruction manuals to prepare food. In the future, such technologies may also expand into family domains such as care and elderly support. Based on the development of big data, cloud computing, and artificial intelligence, human society will usher in an era of intelligence explosion, which will not only influence corporate transformation and development but also profoundly impact society and daily life.

Current research on intelligent media has reached a sophisticated level. The integration of intelligent media with homes, based on human-computer interaction technology, transforms domestic facilities into a comfortable and convenient living environment. The domestication of intelligent media can not only improve

people's quality of life but also satisfy higher demands for the intelligence of home devices.

2. Usage of Smart Homes in Ethnic Minority Regions

First, residents in ethnic minority regions exhibit relatively low usage rates of smart home products, which are primarily concentrated in fragmented household objects and practical home appliance sets. Current surveys indicate that user acceptance in these regions is relatively high for three categories: home security systems, intelligent lighting, and smart curtains controlled by third-party devices. Among these, smart sockets have become the most popular smart home product in ethnic minority regions. Although smart home products have evolved from single-item intelligence to systematic intelligence in terms of form, consumer groups have not yet transitioned from single-item to systematic adoption. According to usage surveys in these regions, one user commented: "This smart doorbell is really unreliable—one gateway supports over 30 devices but constantly loses connection; its stability is terrible..." Such sentiments reflect the common view among many smart home users in ethnic minority regions that current products are flashy but impractical, which also reveals the complexity of smart home operations. Most users in these regions believe such products lack sufficient human-centered design, severely impacting user experience.

Second, overall, smart home users in ethnic minority regions consist primarily of affluent consumer groups. For most ordinary consumers, smart homes remain expensive luxury items without particularly strong demand. Additionally, in homes equipped with smart devices, connecting equipment such as televisions, lights, and even toilets to cloud servers creates security vulnerabilities for consumers. The privacy leakage associated with so-called smart home devices far exceeds that of non-smart devices, representing one reason for the relatively limited adoption of smart homes in these regions.

Finally, in terms of control methods, smart homes are gradually shifting from mobile phone control to multiple control modalities. Users in ethnic minority regions prefer controlling smart homes through mobile apps and switch panels. Although convenient, voice control still lags behind traditional switch-based control due to operational instability. Based on these usage patterns, smart homes face numerous challenges: low practicality, persistent security risks, high prices, and weak user demand.

3. The Domestication of Intelligent Media and Its Significance

Since the early days of internet development, customized services for high-end private residences have included intelligent buildings, smart security, and smart architecture. The IoT, through smart terminals, integrates intelligent media with the smart home industry, making smart home applications possible. In the development of intelligent media, "domestication" has become a key trend.

Examining the role of smart homes, the domestication of intelligent media holds significant reference value for media, designers, and homeowners alike. It provides conceptual frameworks for future applications of domesticated intelligent media, enabling more rational and human-centered designs while helping to further refine the theoretical system of intelligent media. Whether considering the overall operation of intelligent media domestication or home intelligence, these developments can drive the transformation from high-end products toward popularization, practicality, simplified operation, and modularization.

3.1 Scenarios of Intelligent Media Domestication

The emergence and development of media culture is not merely the dissemination of narrowly defined cultural phenomena caused by media, nor is it limited to commercial cultural forms within market-oriented operational models. Rather, it represents a disruption of the stable value system formed by society over the long term. As the domestication of intelligent media continues to develop, it will bring entirely new lifestyles to people. The “information” brought by railways was not the cargo or passengers they transported but a worldview and a new state of connectivity; the “information” brought by television was not the images transmitted but the creation of new relationships and perceptual patterns, transforming family structures. As McLuhan emphasized, “the medium is the extension of man.” When the functions of intelligent media become domesticated through technology, intelligent media manifests as an extension of the human body, and media become not merely tools but active participants in our daily lives. When media are endowed with “human-centered” attributes, this human-centeredness is reflected not only in content design but also in interconnected domestic scenarios.

As media permeate extensively, homes themselves become alienated: the force of need transforms into desire for symbols. When homes become associated with “media,” they acquire symbolic relationships with it. Although homes and “media” have seemingly always served each other’s needs since their inception, contemporary society remains unable to escape the dominant position of “media,” becoming increasingly controlled by it. People derive sublimation from media “symbols” and accept their referential meanings, yet these meanings merely represent an abstraction of contemporary order—an order that approves of people using new technology to symbolize their identity and status, an order that approves of consumption generating self-worth. “Symbols” have become means of manipulating meaning and value, while people gradually manage their bodies according to standardized principles of entertainment and even hedonism, turning the body into a passive consumer of smart home products. This consumption concept varies according to audience level, media form, and other related factors, which also explains why smart home products are expensive: high prices symbolize identity and status to some extent, making homes a concentrated manifestation of alienation.

3.2 The Significance of Intelligent Media Domestication

Against the backdrop of the IoT, analyzing smart homes in ethnic minority regions can predict development prospects and trends, holding important practical significance for development direction, business models, and future expansion fields. The domestication of intelligent media can not only promote intelligent living and facilitate daily life in ethnic minority regions but also advance the process of intelligent media domestication in these areas.

The consumption of smart homes is reorganized alongside symbols, daily experiences, and practical activities, extending the domestication of intelligent media into the realms of commodities, experiences, planning, consumption, and aspirations to achieve a consumption culture of either utilitarian meaning or self-expression. As consumer society matures and advertising expands, the scope of “media” also broadens. Modern society has developed into a pan-mediated consumer society that consumes media as commodities and celebrates content as symbols. The domestication of intelligent media will drive the development of intelligence and domestication from high-end products toward popularization, practicality, simplified operation, and modularization. As smart homes represent an emerging industry with not yet fully formed market consumption concepts, the further popularization of intelligent media will inevitably unlock enormous market potential as consumer usage habits are cultivated. Research on intelligent media domestication in ethnic minority regions will gradually explore a new path suitable for the development of intelligent media “homes” in these areas.

4. Conclusion

The development and application of mobile information technology have profoundly influenced people’s consumption behaviors and lifestyles. Smart homes affect not only product functions but also permeate people’s lifestyles and consumption patterns. Through analysis of intelligent product domestication in ethnic minority regions, a demand system centered on “user—smart home product—scenario” has formed. “Domesticated” products should abandon “lofty” design requirements and instead provide smart home products suitable for domestic scenarios.

References

- [1] Meng Xiangjun. Research on the Development of Modern Intelligent Home Appliances[J]. Heilongjiang Science and Technology Information, 2013(25): 135.
- [2] Hu Yuan. Opportunities and Challenges for the Smart Home Industry Under “Triple Network Convergence”[J]. China Security, 2010(10): 85-87.
- [3] Wu Sheng. Scene Revolution: Reconstructing the Connection Between People and Business[M]. Beijing: Mechanical Industry Press, 2015: 28-29.

[4] Wang Hanhua, Liu Xingliang, Sun Xiaoping. Intelligence Explosion: Opening the Era of Homo Sapiens[M]. Beijing: Mechanical Industry Press, 2015: 125-126.

(Author affiliation: Guizhou Minzu University)

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