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Based on the new old crowd digital currency consciousness Design of knowledge service system

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Abstract: *China is facing the rapid development of digital technology torrent and the increasingly serious aging population problem, the development of technology has led to a digital economy and cashless society. While people conveniently carry out economic activities through digital means, social problems such as network fraud, theft of others' privacy, digital divide and other social problems have gradually become prominent. Older people are more likely to fall victim to digital isolation and online fraud due to their ability (especially cognitive ability) decline and behavioral fixation, derailment from the experiences learned in the cash society, and lack of appropriate digital citizenship education. Starting from the concept of service design and starting from the current situation of the demand of people aged 50-70 (referred to as the new elderly people), the content framework of the new elderly people in the era of digital economy is summarized, and a sustainable knowledge service system of "people-contact-environment" interaction is constructed with mobile applications as the carrier.*

Keywords: *Art of design; Digital currency; Service design; Product design*

1. Current situation and existing problems of China's digital economy

According to the 43rd Statistical Report on Internet Development in China (2019), as of December 2018, the number of Internet users in China has reached 829 million and the Internet penetration rate has reached 59.6%, among which the number of mobile Internet users has reached 817 million, accounting for 98.6% [1]. In this context, digital payment and digital finance are developing rapidly, and their application scenarios almost cover all cash consumption fields such as food, clothing, housing, transportation and so on. No matter from the perspective of domestic or global consumption market, cashless society has become a trend. The author believes that it has three characteristics: first, the popularization of virtual services; Second, payment scene, social, community; Third, the iteration of electronic money. Zhu Ge believes that "the emergence of electronic money is the inherent requirement and inevitable result of the development of information technology and network economy [2], and it is an irreversible form of evolution. However, in the process of the digital revolution, some contradictions have gradually become apparent, which can be roughly divided into two points:

The first is the contradiction between the imperfect digital payment supervision and the rapid development of digital technology.With the advent of cashless society and the popularization of digital payment technology, Internet companies pay more attention to the business and profit model of digital economy, but ignore the code of conduct and moral construction of digital economy. In the rapid development of the lack of a systematic product moral evaluation standards, resulting in a lot of legal and social consensus level of social problems.

The second is the contradiction between the lag of digital citizenship education and the rapid popularization of digital applications.The development of digital citizenship education is the inevitable result of digital technology embedded in social life, Mike. However, the current digital education takes the use of technology as the core of digital education, and does not carry out digital citizenship education in a comprehensive way.

To sum up, the new security risks and laws and regulations lag behind the contradiction; The contradiction between the increase of Internet users and the "technical discrimination" in design; The contradiction between new financial risks and users' weak financial awareness; The contradiction between digital citizenship education and the rapid popularization of digital applications, and the contradiction between the wild expansion of Internet companies and the lack of a moral evaluation system, will make the risk and impact of users' use of digital currency far more than expected.

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2. The digital economic activities of the elderly and existing problems

2.1. The popularization of Internet activities among the new elderly

Data from December 2010 to June 2019 show that the age structure of China's Internet users continues to infiltrate the elderly group, with the largest increase (1.6%) in the population aged 50-59, and a year-on-year increase of 0.4% in the population aged over 60. Blue Book on the Ageing also points out that the urban younger elderly (60-65 years old) are the "main force" of using the Internet[3]. Based on the above background, the increased Internet activities of the elderly and their lack of digital knowledge have caused the risk impact of using digital payment to be far beyond the expectation.

2.2. The current situation and existing problems of digital economic activities of the newly aged population

This paper starts from the demand status of people aged 50-70 (referred to as the new old people), and carries out a design and research on the currency awareness and behavior pattern of the elderly in the digital economy from the perspective of cognition. Through interviews with close observation, early found old people with physical and cognitive aging, except on the vision, memory, attention is on the decline with age growth, when learning to use a new things will take more cognitive load, and the behavior fixation, cause they are under the control of the influence of ingrained habits, difficult to natural like the young into the digital age [3]. This phenomenon was described by American anthropologist Margaret. Mead called the era of post-metaphoric culture, in which social knowledge is updated and technology is developed rapidly, and the younger generation is far more capable of learning new technology and knowledge than the older generation. Under the dual differences of technological generation and physiological cognition, the elderly face serious digital barriers and barriers when using digital payment applications. At present, digital education mainly focuses on technology fragmentation to cultivate the elderly's mastery and basic application ability of technology, but there is a relative lack of research and practice on the education, guidance and intervention policies of digital literacy of digital citizens. According to the previous survey data, the researchers found that the elderly lack the shaping of digital citizenship and the popularization of digital financial knowledge and services, and there is no systematic and sustainable knowledge service to guide them.

3. Research on the risks and demands of using digital payment by the elderly

By means of investigation and interview, operation measurement scale, behavior observation and other methods, the paper tests the knowledge reserve, cognitive characteristics, experience demand and quality, and use situation of digital payment application for the first-time elderly people. Firstly, a preliminary test was conducted by questionnaire survey method. 129 questionnaires (120 valid ones) were issued, mainly for the first-time elderly people aged 50-69 in the city. According to the results of the questionnaire, male respondents accounted for 48.29% of the total number of people, and female respondents accounted for 51.71%. According to the results of the questionnaire survey, 6 typical users (3 men and 3 women) were invited to participate in the close user interview and operation measurement. Through the collection and integration of the data on the digital payment ability of the first-time elderly group, the basic data support was provided for the design view of this paper.

According to the test, there are three main risks that the first-time elderly people face in the digital economy :(1) misunderstandings of digital payment application experience. Because the first-time elderly people cannot correctly use various services and Settings of digital payment, such as inability to understand the payment icon and fuzzy memory of the payment path, the payment behavior cannot be completed smoothly; (2) Digital payment environment blind area. In digital economic activities, there is great instability and uncertainty in both online and offline environments, and it is difficult for new and elderly people to distinguish and judge the authenticity of various digital information in the environment; (3) The traditional currency consciousness is fixed, and the new elderly people are used to various activities in the cash economy, which forms the behavior fixation, and the prevention awareness of various activities in the digital economy is not in place. Therefore, in view of the external risks faced by the newly aged when using digital payment, as well as the internal digital barriers and digital barriers, it is necessary and urgent to rebuild the knowledge service system of digital currency awareness.

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4. Research on the content framework of digital currency consciousness reconstruction among young and old people

Based on the types of risks faced by the new elderly people in the digital economy, the content framework of the knowledge system of digital currency for the new elderly people is constructed. Taking the teaching concept of American educational psychologist Benjamin Bloom as the target, he proposed that knowledge can be divided into three categories: cognitive category, skill category and attitude category, and each category corresponds to different levels of learning. Content framework can be divided into digital currency consciousness remodeling, digital payments to plastic, digital pay three security module, and from the basic quality of old people in the early, behavior quality, safety, literacy into three major areas, in order to (user), content, behavior, situation as a center of design optimization, forming a complete set of theoretical framework to the money consciousness to plastic.

4.1. Research on the reconstruction of digital currency consciousness

In order to rebuild the currency consciousness of the young and old people, it is necessary to establish a perception of the systematic content of digital currency knowledge. Through sustainable knowledge learning, the explicit digital currency knowledge is converted into the recessive digital currency consciousness, and a complete knowledge life cycle is formed after the transformation of explicit and recessive knowledge. Therefore, in the process of design optimization, the content level is the focus of optimization, and all-round and systematic help is needed to establish the rights and awareness of the digital economy, and to understand the knowledge of digital technology and digital finance. First of all, it is necessary to help the first-time elderly people to eliminate cognitive barriers and psychological distance when using digital payment applications. Many elderly people face serious digital barriers and barriers when using digital payment applications. Can through the simple game of interactive teaching, such as Birmingham city bus system is through interesting interactions to replace the cumbersome text description, reduce anxiety to technology to help the old people in the early, stimulate the elderly used on the application of the digital pay interest and willingness to accept. Secondly, help the first-time elderly people establish the right and awareness of digital payment, such as the construction of visual case diagram to help the first-time elderly people understand the technical resources that digital citizens enjoy and the system and regulations to be followed, and strengthen their self-awareness of security protection in digital economic activities. In order to achieve the imperceptible promotion of digital currency awareness.

4.2. Research on the remodelling of digital payment behavior

In order to rebuild the digital payment behavior of the newly aged people, it is necessary to establish a perception of the flexible behavior of digital currency, and transform the awareness of digital currency into a correct and practical digital payment behavior through sustainable knowledge learning. Therefore, in the process of design optimization, the behavioral level is the focus of optimization. First of all, help the first-time elderly people to understand the ICONS and basic functions of digital payment apps. For example, Apple Store will help users activate and guide the operation methods after they purchase products, or promise to provide timely help in the process of use. Secondly help at the beginning of the old people to understand the digital payment transaction process, methods, for example by dynamic steps show or video guide, establish a clear digital pay scenario process guidance, but can be by gaming simulation practice, many times to strengthen early old people use digital payment behavior ability, and considering the decline in the elderly learning ability, can through the customization of demand, The modularized approach to the complex system helps the elderly to reduce the interference items of digital payment function and improve the awareness of digital payment behavior.

4.3. Research on the secure remodelling of digital payment

The security reconstruction of digital payment for first-time elderly people requires the establishment of situational perception of digital currency, so the situational level is the focus of optimization in the design optimization process. First of all, in terms of the security of digital payment in different scenarios, the first-time elderly people should be helped to make independent judgment and guarantee their own payment security according to the use situation. For example, the mobile service center in Hackney, London, UK, based on the community activity center, promotes services and products to the elderly and provides relevant training and timely help. Young volunteers and the elderly communicate and cooperate with each other to help them adapt to the behavioral standards and ethics of digital payment. Secondly,

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in terms of the availability of digital payment in different scenarios, it takes into account the nearby features (shopping nearby, group buying) and the places that the new elderly people often go to (hospitals, pharmacies, supermarkets). The prompt accessibility of payment can be achieved through online link and offline prompt mode. For example, Alipay sets up payment channels in shopping malls, supermarkets, hospitals and other large shopping places, and provides schematic diagram of payment process both online and offline, in order to achieve the purpose of improving the security of digital payment.

To sum up, a complete knowledge life cycle can be formed through the transformation from explicit knowledge to recessive behavior from three aspects of digital currency awareness, digital payment behavior and digital payment security, so as to help the new and old people correctly understand digital payment literacy, reshape currency awareness and cultivate digital citizenship awareness.

5. A practical study on the Re-modelling of digital currency consciousness among the newly aged population

According to the theoretical framework of the new-aged people's digital currency consciousness reconstruction, the paper makes a practical exploration of the knowledge service system with the new-aged people's digital currency consciousness reconstruction as the target. In the establishment of knowledge system, the cultivation of the two kinds of knowledge ability, the overall perception and behavioral practice, should be established. Therefore, the process of the reconstruction of digital currency consciousness practice is divided into the construction of "personality constructivism" and "social constructivism" two kinds of cognitive structures. By taking mobile applications as the carrier, a knowledge service system with a sustainable life cycle is built to realize the transformation process of explicit knowledge and invisible knowledge, and to realize the formation of "personal construction".

5.1. Design of Knowledge Interaction System for the Re-shaping of Digital Currency Awareness among the New Old People

Through to the old people in the early awareness of digital currency to plastic content framework for hierarchical analytical framework, step by step, build interactions with mobile applications as the carrier of knowledge service system, to help old people to strengthen service early digital pay, measure of digital content consumption and economic activities in knowledge and self security, increase the economic viability, old people at the beginning of digital There are the following design optimization points.

Usability of knowledge interaction system, the observability or perceptibility of the product is an important factor that affects people's acceptance of it, which is called "perceived usability". In terms of design optimization, the reliability, friendliness, effectiveness and sustainability of information transmission in the knowledge interaction system all enhance the focus of "perceived usability". For example, the financial knowledge and constructivist learning concept of the new elderly people can be applied to the corresponding scenes to form an effective knowledge service system based on the life cycle, so that the new elderly people can imperceptibly improve their awareness of digital currency and digital payment ability in their life.

(2) The ease of use of the knowledge interaction system, the effectiveness, efficiency and user satisfaction of the product when users use it to achieve specific goals, is called "perceived usability". On design optimization, first of all, according to the physiological characteristics of old people in the early, optimize the design of the interface between knowledge elements, which include character recognition and color recognition and graphics recognition, such as the milan polytechnic university service design team for the elderly suitable font study, points out that the 14-16 pt font suitable for old people on the electronic screen, ensure the interface elements can be identified. Secondly, the operation path is simplified. Overly-complex operation steps will increase the cognitive load of the elderly and reduce their use efficiency. In terms of design optimization, a shallow and broad functional information framework is adopted to arrange the main functions of the software on the main page in a tiled way to avoid hidden menus. In the design optimization, functions are grouped regularly through modular components, and through the design optimization, the elderly people can perceive the ease of the knowledge interaction system.

5.2. The design of service contacts for the remoulding of digital currency awareness among the young and old people

Albert, founder of social learning theory. Bandura put forward "interactive determinism [4], which

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emphasizes the interaction among behavior, cognition and environment in the process of knowledge acceptance. This theory points out the relationship between the interaction between cognition, environment and human behavior [5]. From the perspective of "interactive determinism", it is necessary to establish an online and offline service interface when the new and old people use the knowledge interaction system. In other words, users connect the whole experience process of service receivers with single or multiple contacts in the service system as clues over time. Touchpoints are the basic units in the whole life cycle of the service and provide users with the medium to contact and communicate with the service through visible and perceptible contacts. Service contacts have multi-dimensional forms, which can be divided into physical contacts, digital contacts and human contacts according to media. According to the process, it can be divided into pre-service contact point in service and post-service contact point.

With multi-dimensional contacts as the media, the new elderly people can be personalized empowered by filling in demand pain points or knowledge blind areas through mobile applications (digital contacts), and get feedback from different contents, such as digital payment security knowledge, digital payment process, etc [6]. According to the needs of different knowledge modules to carry out the sustainable knowledge service system learning. And in specific scenes such as hospitals, pharmacies, supermarkets and other public Spaces, set up the process schematic diagram of auxiliary digital payment (physical contacts), or through relevant staff (character contacts) to provide timely help, the explicit knowledge of digital money into the implicit awareness of digital money, forming a complete knowledge life cycle. To help the elderly people to eliminate the cognitive barriers and psychological distance when using digital payment.

6. Conclusion

The development of technology has brought digital economy and cashless society, and the elderly cannot adapt to the convenience brought by the development of technology due to their ability (especially cognitive ability) decline and behavioral fixation, as well as derailment from the experience learned in the cash society. The purpose of this paper is to enhance the digital citizenship awareness of the elderly, and to explore how to shape the currency awareness of the new elderly in the era of digital economy through the concept of service design. After a comprehensive analysis of the digital economic behavior of the newly aged population, the theoretical framework of money consciousness reconstruction is summarized, and the knowledge service system of digital currency consciousness reconstruction is constructed with mobile application as the carrier.

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References

[1] CNNIC(2019). The 43rd Statistical Report on China's Internet Development, pp.9-12.
[2] Zhu Ge(2015). Concept Discrimination and Dispute of Digital Currency. Value Engineering, vol.27, no.2,pp.126-143.
[3] Qiu-xia zhang(2019). Report on the Development of Quality of Life for the Elderly in China. Social Sciences Academic Press, no.10,pp.89-93.
[4] Albert Bandura(2015). Social Learning Theory. Renmin University of China Press, pp.34-53.
[5] Jason B. Ohler(2010). Digital Community, Digital Citizen.CA: Corwin Press, pp.26-43.
[6] Suchman, Lucy(2011). Anthropological Relocations and the Limits of Design. Annual Review of Anthropology,pp.51-56.