Research on audience news and information behavior in the application on mobile phone in Chongqing

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Abstract: In the era of rapid advancements in mobile phone media, media integration has progressed into a stage where audience-centred market integration prevails, rendering the exploration of audience information behaviour[1] a paramount priority for both communication research and media practice. This paper delves into news information behaviour within the mobile media landscape, leveraging T.D. Wilson's information behaviour theory [2] as a starting point. It integrates theories such as Uses and Gratifications, Japanese information behaviour theory, media dependency theory, innovation diffusion theory, and consumer behaviour theory [3] to devise a communication information behaviour model. Through interdisciplinary theoretical linkages, this study aims to contribute to theoretical innovations in exploring the behaviour of communication audiences. Utilizing a robust foundation of literature reviews, the primary research methods employed are quantitative research and surveys. Data analysis is conducted using statistical software to discern the characteristics of audience news information behaviour in the mobile media environment. Furthermore, the study compares and contrasts the information behaviour patterns among typical users across different news audience segments. By synthesizing interview insights, the key factors influencing audience news information behaviour are identified, leading to the formulation of a communication news information behaviour model. Employing structural equation modelling (SEM)[4] techniques and statistical software, this paper delves into the intricate relationships between variables that influence the adoption behaviour of mobile news, ultimately constructing a mobile news adoption behaviour model.

Keywords: Information behaviour, Mobile phone news adoption behaviour, News audience influencing factors.

1. Introduction

At present, the main object of mobile phone media research is communication institutions. Even many researchers, with "Joseph R. Dominick(2000)[5], divide the study of new media into four levels. The first level of research focuses on the definition, characteristics, regulation, economy and technology of the media itself. The second level involves the use of media, focusing on audience characteristics, audience perception, audience attitude and usage pattern. The third level involves media effect, which refers to the influence of media use on people's lives, economy, politics and other aspects. The fourth level consists of the improvement of media, including future trends, technological upgrades, the establishment of new theories and models, etc. At present, the research on mobile phone media in domestic communication circles mainly focuses on the first level; that is, the research perspective is mostly the discussion of mobile phone media economy, regulation and business model[6]. There are a few types of research involving the deeper level of media research, such as audience perception, behaviour, usage pattern, trend exploration and theoretical model, which is the main direction of media research in the future.

The overall goal of this study is to summarize the news information behaviour rules of the audience under the current diversified and integrated media environment. [7]"What are the characteristics of audience news information behaviour?" "Why is that?" "And what will the future hold?" In order to

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think about the main points, enrich and update the theory of communication, and guide and suggest the practice of media,

1.To summarize the characteristics of the audience's news information behaviour under the mobile media environment in Chongqing, analyze their behaviour patterns, and put forward practical suggestions to improve the communication effect of news media.

2. To identify and analyze the main factors affecting the audience's news information behaviour under the mobile media environment in Chongqing and establish the relevant influence model.

3. To explore and build the adoption behaviour mechanism of mobile news information services and provide empirical evidence and strategic suggestions to promote the effective communication of news media on mobile platforms.

2. Literature Review

This paper draws on the most classic and widely verified technology acceptance theory in this field as the theoretical support for influencing the adoption of new media technology, supplemented by innovation diffusion theory, media dependence theory, situation theory and consumer behaviour theory, which constitute the main theoretical framework of this study[8].

The research on the influencing factors of mobile news information behaviour is a micro component in the field of information behaviour research[9]. The used behaviour of mobile news, like other information behaviours, is governed by the laws of macro human information behaviour. Therefore, this paper adopts the theory of news information behaviour as the basic framework for research and identifies seven basic dimensions that affect mobile phone news information behaviour: technical factors, content factors, situational factors, interpersonal factors, consumption factors, psychological factors, and personal factors[10].

The TAM model variable will be increased according to the specific research object and situation in all fields of science and technology adoption research[11]. As a representative of the forefront of convergent media, the mobile news adoption model also needs to be further verified and revised in the convergent media technology environment [12]. Based on this, in addition to the perceived usefulness and perceived ease of use variables, this research model also adds three additional influencing factors: perceived entertainment, perceived interactivity and perceived integration. In domestic and foreign research on the factors influencing new media adoption behaviour, the TAM is widely used to verify the influence of technology factors on the intention to adopt behaviour in new media information technology[13]. The factors of perceived usefulness and perceived ease of use in the model are classic core variables, and their influence on adoption intention has been confirmed in the vast majority of new media adoption studies [14-15]. Therefore, this paper will take TAM model as the basic model of technology perception research.

Rogers (1986) proposed Innovation Diffusion Theory (IDT), which explains why people accept technological innovation and what factors play a role in this process. Rogers (2003) argues that among these factors, "the perceived characteristics of innovation" play an essential role in acceptance decisions. The existing literature research on the adoption of new media shows that the higher the enthusiasm of the audience to accept the latest technology, the stronger their willingness to adopt the technology. These studies include electronic payment adoption studies (Kim et al.; Lee, 2010), a study on the mechanism of online consumption behaviour (Feng et al., 2009), a survey of mobile phone 3G adoption (Dong Fang, 2010), and a study on the adoption behaviour of converged media network T.V. (Liu Qiang, 2011).

American scholar Defler proposed the theory of Media Dependency in 1976[16]. According to the media dependence theory, people rely on media information to meet specific needs and achieve specific goals. Gong Xinqiong (2011) pointed out that the essence of media dependence theory is to focus on the correlation between "media dependence" and "media importance"; that is, the more dependent a person is on a particular medium, the more critical it is to him and the more inclined he is to use it.Li Xigen(2008)discussed the influence of the characteristics of media dependence on mobile news acquisition behaviour, taking "news media dependence" as an impact factor and taking the importance of news to daily life and the frequency of daily news media use as indicators. The research shows that the

influence of media dependence on mobile news acquisition[17] is not significant. However, the actual development of mobile phone functions is changing rapidly. The technical limitations proposed by Li at that time have long been broken through. The conclusion needs to be further verified. At the same time, Li's media dependence is based on the overall time spent on newspapers, T.V., and network news media, which needs to be more accurate for the increasing number of new media users. Therefore, starting from the psychological mechanism of media dependence, this paper takes the intensity of the audience's demand for news content and the audience's dependence on mobile media form as the dual indicators of news media dependence and re-verifies the influence of news dependence on the adoption intention of mobile news.

According to the consumer behaviour theory, in general, when the audience buys a product or service, its expected income is higher than the price of the commodity, and the transaction will occur. In other words, when people feel that the value brought by the quality or function of the product is higher than the price it pays, they will promote the willingness to consume [18], le Apps, argued that the audience's perception of expenses affects the experience quality of mobile apps. Mobile apps with reasonable prices have higher experience quality. When exploring the factors affecting the continued use of mobile newspapers, Zhang Zhipan and Chen Yu (2011) found that cost performance is the critical factor affecting users' purchase of any goods or services[19]. Therefore, the adoption of mobile news needs to consider the audience's economic affordability and pricing acceptance fully.

Merowitz's media situation theory is of great help to understanding audience behaviour in the new media environment. Li Teng and Liu Jing (2012) conducted a comparative study of information behaviour models of different audiences based on the context. Magzidan (2012)[20] placed himself in the context of Weibo, observed the role-playing and transformation of individuals, analyzed the audience's preference for using Weibo, judged the correlation with personal attributes, and deeply examined the communication behaviours affecting the audience. Analyze the situation change and the realization of "central behaviour" in micro-blogs and the limitations of the development of micro-blogs. In the field of information science, hundreds of information behaviour models have been developed for different situations. More and more scholars have realized that context-based research will be one of the essential trends of information behaviour research in the future [21].

3. Methodology

This study adopts quantitative research methods and uses exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)[22] to identify and verify the key factors affecting the audience's news information behaviour under the mobile media environment in Chongqing. This study takes Chongqing as the research scope and the Chongqing audience as the centre of carrying out the seed surveys. In this part, structural equation model (SEM) [23] technology is used to analyze the relationship between variables and their influence on adoption intention by statistical software [24].

The sample of this study is mobile phone media users in Chongqing. A stratified random sampling method is adopted to extract samples from mobile phone media users of different ages, occupations and educational backgrounds in Chongqing to ensure that the samples are representative—a combination of an online questionnaire and on-site questionnaire carried out the questionnaire collection. According to previous research experience, the number of variables observed in this study was 69. Therefore, the sample size of this study should be greater than 345. So, the study sent out 600 questionnaires. The sample size should be large enough to ensure the reliability of the analysis and the representatives of the results.

Data were collected by means of a questionnaire survey, which included five personal characteristic variables and 14 perception and dependence variables.The specific variables are as follows: personal characteristic variables: sex, age, career, education level, income. Perception and dependent variables: Perceived usefulness (P.U.), perceived ease of use (P.E.), perceived entertainment (PENJ), perceived interactivity (P.I.), perceived integration (PMC), perceived news information quality (PIQ), subjective norms (S.N.), perceived situation (U.C.), perceived price (PMV), mobile phone dependency (M.D.), news dependency (N.D.), and self-efficacy (S.E.), technological innovation (T.I.) and behavioural intention (B.I.).

4. Results

4.1. Data Analysis

This study officially distributed questionnaires in August 2024 in the form of self-filled questionnaires. According to the needs of the audience, online electronic questionnaires and paper questionnaires are distributed. The online version of the questionnaire was published through the professional questionnaire survey website Wenjuanxing and the paper version of the questionnaire were obtained in a snowball way. A total of 80 online questionnaires and 387 paper questionnaires were received. A total of 467 questionnaires were recovered, including 351 valid questionnaires. The effective response rate of the questionnaire was 75.1%.

Through the factor analysis function of statistical software, a total of 14 principal component factors were extracted.

According to the criteria of factor analysis, when the factor loading is less than 0.5, the factor will be deleted. Secondly, if the factor is an item, it will also be deleted. Thirdly, the factor load corresponding to each Item must be close to 1, but the factor load of other factors must be close to 0, that is, when the factor load of this Item in all factors is less than 0.5, or there are two-factor loads of this Item more significant than 0.5 (that is, across more than two factors), they will be deleted [25].

Therefore, there are no indicators that need to be deleted.

4.2. After Adjust Model

Through AMOS structural equation modelling, model evaluation, and verification, it has been proved that the model fits well. In the reliability and validity test of the SEM model in this study, the reliability index of all factors reached above 0.9. In the SEM model reliability validity test of this study, all factor reliability indicators reached above 0.9. In contrast, in the validity analysis, 14 independent variables and 19 model assumptions were obtained through factor analysis.

The results show that eight hypotheses hold and 13 do not. At the same time, through the mean difference test, there is no significant difference between the demographic characteristic variables, mobile media dependence, and interpersonal influence on the adoption of mobile news. Direct or indirectly, mobile news adopts six influence factors involving technology, information and situation:

1)Perceived technical factors: perceived integration, perceived entertainment, and perceived ease of use, perceived usefulness.

2) perceived news information quality.

3) Perceived situations.
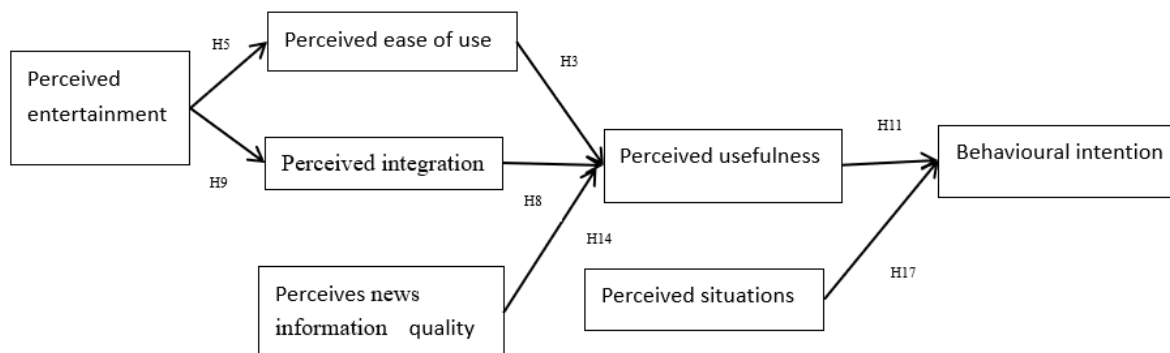
Figure 1.
Mobile news adoption behaviour final revised model.

4.3. Hypotheses Test

Table 1.

No.	Summary table of the hypothesis verification results of the mobile phone news adoption model	Accepted/Rejected
H1	The more useful the audience's perception of mobile news, the higher the willingness it is to adopt mobile news.	Accepted
H2	The higher the audience perceived the ease of use of mobile news, the higher their willingness to adopt mobile news.	Accepted
H3	The higher the audience perceived the ease of use of mobile news, the higher the perceived usefulness of mobile news.	Accepted
H4	The more entertaining the audience perceives mobile news, the more willing they are to adopt mobile news.	Accepted
H5	The higher the audience perceived the entertainment of mobile news, the higher the perceived usefulness of mobile news.	Accepted
H6	The higher the audience's perception, interaction and integration of mobile news, the higher their willingness to adopt mobile news.	Accepted
H7	The higher the audience's perception of mobile news, the higher the perceived usefulness of mobile news.	Rejected
H8	The higher the audience's perception of mobile news, the higher the perceived ease of use of mobile news.	Rejected
H9	The higher the audience's perception of mobile news, the higher its perception of mobile news entertainment.	Accepted
H10	The higher the information quality perceived by the audience, the higher their willingness to adopt mobile news.	Accepted
H11	The higher the information quality of mobile news perceived by the audience, the higher the perceived usefulness of mobile news.	Rejected
H12	The stronger the audience's cognition of the subjective norms of mobile news, the higher their willingness to adopt mobile news.	Rejected
H13	The stronger the audience's situational perception of using mobile news, the higher their willingness to adopt mobile news.	Rejected
H14	The higher the audience's acceptance of mobile news, the higher their willingness to adopt mobile news.	Rejected
H15	The higher the audience's dependence on mobile phone, the higher their willingness to adopt mobile phone news,	Rejected
H16	The higher the audience's dependence on news, the higher their willingness to adopt mobile phone news.	Rejected
H17	The higher the audience's degree of technological innovation, the higher their willingness to adopt mobile news.	Rejected
H23	The gender difference of audience significantly affects the willingness of mobile news.	Rejected
H24	The age difference of audience significantly affects the willingness of mobile news.	Rejected
H25	The educational difference of audience significantly affects the willingness of mobile news.	Rejected
H26	The career difference of audience significantly affects the willingness of mobile news.	Rejected

H27	The income difference of audience significantly affects the willingness of mobile news.	Rejected

5. Conclusion

5.1. Research Objective 1: To Summarize the Characteristics of the Audience's News Information Behavior Under the Mobile Media Environment in Chongqing

In order to better meet the needs of the audience, news media should take the following measures:

1)Improve user experience: Enhance the functionality and ease of use of mobile news apps to meet audiences' demands for immediacy and interactivity.

2)Diversified communication channels: Spread news and information through social media, news apps, SMS and other channels to cover more audience groups.

3)Customized Content: Provide customized news content based on the needs and preferences of the audience to increase audience satisfaction and loyalty.

5.2. Research Objective 2: To Identify and Analyze the Main Factors Affecting the Audience's News Information Behavior

Based on the main influencing factors identified, the news media should take the following measures:

1)Improve the perceived news information quality: Provide high-quality, valuable and entertaining news content to meet the diverse needs of audiences. Optimize user experience: Improve the ease of use and interactivity of news apps to enhance user participation.

2)Reasonable pricing: According to the audience's willingness to pay, develop a reasonable pricing strategy for news applications.

3)Enhance social impact: Enhance the social implications of news apps through social media and other channels to attract more audiences.

4)Technological innovation: Constantly innovate the technical functions of news applications, such as adding AR/VR news reports, intelligent recommendations, etc., to improve user experience.

5.3. Research Objective 3: To Explore and Build the Adoption Behavior Mechanism of Mobile News Information Services

In order to promote the effective dissemination of mobile news information services, news media should take the following measures:

1)Improve user satisfaction by providing high-quality news content and good user experience, improve user satisfaction and enhance user willingness to continue using.

2)Enhance the willingness to use: Through marketing promotion and user incentives, enhance the audience's desire to use and promote their actual use behaviour. For example, new users can be attracted by offering free trial periods, promotions, etc.

3)Pay attention to user feedback: Establish a user feedback mechanism, understand user needs and problems in a timely manner, and constantly optimize the functions and content of news applications.

4)Social dissemination: Use social media platforms to encourage users to share news content and expand the reach and user base of news apps.

In conclusion, through this study, we have a comprehensive understanding of the characteristics and influencing factors of the audience's news information behaviour under the mobile media environment in Chongqing and have built relevant influence models and adoption behaviour mechanisms. The research results provide empirical evidence and strategic suggestions for the communication strategies of news media on mobile platforms, which is helpful in improving the communication effect of news media and promoting its effective communication on mobile platforms.

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Highlight:

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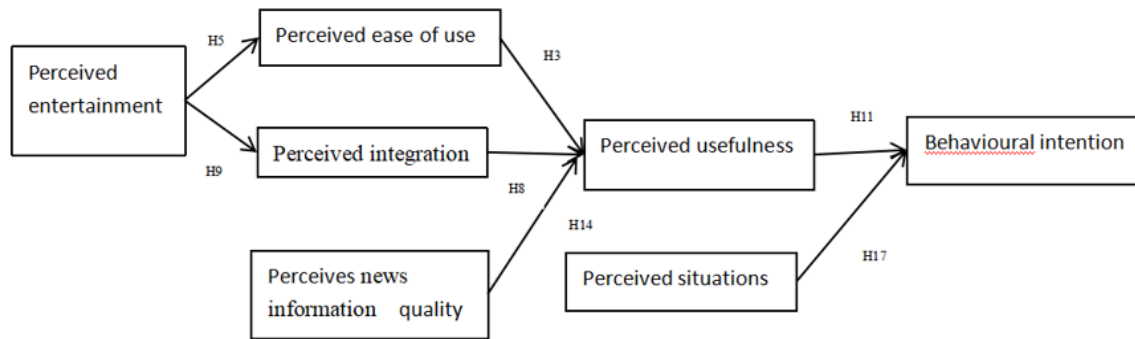
Figure 2.
Mobile news adoption behavior final revised model.