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Chinese Customers' WTP for Legal Digital Music Downloading

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Abstract This study is to examine the effects of some significant factors on consumers' willingness to pay (WTP) for digital music via the moderating variables of music affinity and the deterrence effect of the legislation. Based on 517 Chinese respondents with access to digital music, using the multiple liner regression model, this study indicates that free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm, habit strength have direct influence on WTP, and music affinity and the deterrence effect of the legislation have moderating effects. This study contributes theoretically to research on Chinese consumers' WTP for digital music and offers practical recommendations for the digital music charging system setup.

Key words WTP, Free ideology, Deterrence effect of legislation, Perceived benefits of free or paid downloading, Habit strength, Subjective norm

1 Introduction

Digital piracy has attracted attention from researchers, and digital piracy encompasses the illegal copying and/or downloading of copyrighted software or digital materials such as music or movies files^[1]. Music piracy has changed from pirate tapes and CDs to illegal P2P music file sharing and illegal digital music downloading. *The Report for China's Music Industry Development 2015* shows that in 2014 the digital music market reached 49100000000 yuan and the number of digital music users surged beyond 478000000. When consumers are enjoying free digital music, record companies and artists are suffering from the depression of traditional (not digital) music market. Over the past years, some music service websites, like Xiami Music, Baidu Music, QQ Music and Duomi, have tried to offer music service with payment in answer to the government's call for protecting the copyrighted music works, but such actions didn't get a warm welcome from the customers despite the support from record companies and artists. These years Chinese customers, especially the younger generation, are becoming more willing to pay for digital music. On July 21, 2015, the State Copyright Bureau released an announcement which states that at the end of July, all the music websites should stop offering the unauthorized high quality music copies free. From November 1 on, the music websites officially carry out the charging systems. Therefore, examination on the factors influencing consumer's WTP for digital music downloading is of great importance to marketing research and practice. Most researchers focus on factors influencing piracy attitudes or intentions and some on WTP for authorized and legal music service. Some examine how demographic factors influence people's piracy intentions or attitudes to piracy. These factors include age, gender, income level, education level and

prior illegal behaviors^[3–6, 8–11]. But the results are not in consistency. Lopez-Sintas *et al.* prove that customers' piracy intentions and behaviors will change with the changing demographic factor^[12]. Dimensions in personality characteristics are also examined^[5], including integrity^[4], personal gratification^[4], novelty seeking^[13], attitude towards newness^[3], music affinity^[14–15], music interest^[16], singer/band idolization^[17], and idolatry^[10]. Factors related with the Internet^[16] and computers are also examined, such as Internet knowledge^[6], Internet speed, Internet usage and Internet time spent^[18–19], the freeware ideology of the Internet^[20], computer deindividuation^[6]. Most researchers use Theory of Planned Behavior, Theory of Reasoned Behavior, Decomposed TPB and ethics theory to study related piracy intentions and behaviors from the angles of consumer ethics^[8, 21], consumers' moral levels^[5, 17, 22], moral intensity^[9, 23–24] and moral obligation^[2, 23] combined with some psychological concepts, like the self-concept^[5], ethical self-efficacy^[25], public self-consciousness^[26] and peer influence^[27]. But such morality or ethic angle cannot explain or curb piracy behaviors. Customers even have the perception of anti-big business^[7], so some researchers use the trade-off theory^[28] or combine deontological and teleological views together^[1, 7, 20] by comparing the benefits and sacrifice^[25] or looking into consumer's value consciousness^[4]. Digital music piracy is an issue popping up due to the lack of legislation, so the deterrence theory is frequently applied. Some consumers consider the digital music procurement activity not as a dichotomy of right and wrong, good and bad^[11], that they even haven't realized it as an ethical or morel problem^[29]. Their evaluation of such behaviors is determined by their culture background evidenced in cross-culture analyses and international samples^[3–4, 18, 22, 26, 28, 30]. Jambon & Smetana find that consumers may tag piracy as the result of the "unfair system" "stealing" and "consumer rights"^[14], but some may consider such piracy activity as a form of "collective violence"^[31]. Music piracy is more of a culture-influenced phenomenon^[3, 22, 26, 28]. However, there are some limitations of existent researches. In the researches of music piracy, most study pirate mu-

sic CDs in traditional music market, and the attitudes and intentions to music piracy, few on WTP for digital music downloading. Scarce researches study China market except that of Taiwan or Hong Kong. Most of them take the aspects of marketing ethics and morality^[3, 24] only to find it useless because of the longtime lack of legal clarity, the omnipresent free music resources and the inefficient enforcement of copyright protection. The research instruments with questions developed in Western society are unable to describe the real picture. Chinese scholars, for a long time, believe that China's music market are faced with the same problems as in America or US, and the Western pattern, like the iTunes or Spotify, will be the relief to this dilemma, paying little attention to the biggest fact that we are at the turn of free entertainment to paid entertainment. What should be studied in China's context is how to motivate consumers to pay for music. With the shareholders in the market and the government working together, more efforts should be spared to find out whether the customers accustomed to free dinners are ready to pay for their meals and what hinders the implication of the charging system. This research is trying to find out the answers to these questions to offer empirical suggestions and contribute to such researches.

2 Literature review and hypotheses

2.1 Free ideology The concept of free ideology is adopted from the concept of the freeware ideology in the research of Shang et al.^[20]. It stands for the popular opinion that software should be free and enforcing copyrights harms society as a whole^[32]. As to music, with the development of technology, the marginal cost is so low that pricing for music seems not fair to customers and it is the opposite of what the Internet has always been advocating, the free welfare of the Internet, and free access to everything. Chinese customers have long enjoyed music for free. They assume that digital music should be and may be always free. When the charging up for digital music is brought up, they protest that this practice is violating their rights. But there are also some people insisting that digital music should not be free. So it can be expected that when people agree that digital music should be free more, they will have less WTP for digital music.

H₁: Customers with a higher level of free ideology will have a lower level of WTP for digital music.

2.2 Benefits of Free Downloading (BFD) The perception of certain act's social benefits will influence people's choices. The benefits can be economic or ideological on the levels of individuals, families, groups like the group of singers, and the whole industry^[4], or the masses and the society^[1, 7, 10, 28] evidenced in questionnaires and downloaders' statements about their protests to the charging for music services. Digital music piracy has a network effect on the selling of offline entity products like CDs^[33]. Free downloading is also viewed as a demonstration of countering the "wealth inequity"^[7], the big business^[7, 34] and the "unfair system"^[14], a demonstration of the democratization of arts^[35]. When people think that free downloading is more beneficial to the

society, they will be skeptical of paid downloading and more reluctant to change the behavior.

H₂: Those with a more appreciative attitude towards the benefits of free downloading are less willing to pay for legal music downloading.

2.3 Benefits of Paid Downloading (BPD) The benefits of paid downloading are, to a certain degree, the opposite of the manufacturer loss, the economic loss and the social loss of piracy^[4, 34]. Paid downloading is fairer to artists for their efforts, to the record company for their raising of music talents, to the living of the legal music websites and music platforms more beneficial to the protection of copyright and the development of the music industry in the long run. Ideologically, the charging for music service means the recognition of the efforts that musicians have made and the respect to their works, stimulating musicians to make more excellent works. People in music industry generally believe that it is time to transfer the music industry in China, or there will be big problems especially when merging into the international music market. When people have more perception of consequences of music piracy and the justice of paid music downloading, consumers tend to be more willing to pay for it.

H₃: Those with a more positive attitude to paid downloading and a higher level of perceptions of the benefits that paid downloading may bring to the society will be more willing to pay for legal music downloading.

2.4 Subjective norm Subjective norm is one important factor in the theory of planned behavior and more than one related researches have proved that one's attitude towards piracy or copyrighted music works are influenced by significant others^[3, 36]. The higher the evaluation of subjective norms or more favorable opinions significant others have toward legal digital music downloading, the higher levels of WTP customers will have.

H₄: Those with higher subjective norms will have a higher level of WTP for legal music downloading.

2.5 Habit strength Habit refers to the "situation-behavior sequences that automatically occur without self-instruction"^[2, 37], which influences individual's attitudes and intentions and acts^[18, 38-39]. Habit strength is the consistency to performing certain behaviors and the reluctance and failure to change the habit. For Chinese people, free downloading has some cultural connotation carried down from the group sharing philosophy^[4] and is a consumption habit fed by free spirit of the Internet and the long-existing free resources. In this situation, customers are unmotivated and reluctant to overcome the habit of downloading free music.

H₅: If customers' habit of free downloading is stronger, they will be less willing to pay for digital music.

2.6 Music affinity Music affinity, one's affection and love for music and the evaluation of the importance of music in his or her life, is an important factor^[15]. Those fond of music and music activities tend to be more involved in music downloading^[16]. They may like one type of music or the works of certain musicians. Their fondness will make them want to get certain music works.

When their eagerness for one music work is strong, they will choose to pay for it, especially when they cannot get access to certain music works unless they pay for them first.

H₆: Music affinity has moderating effects among customers, free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm, habit strength and customers' willingness to pay (WTP) for digital music.

2.7 Deterrence Effect of Legislation (DEL) Consumers' knowledge of laws^[40], perceived prosecution risk^[9, 17] and concern for law/punishment^[41] will influence their evaluation of piracy positively or negatively^[14, 42]. As to the music piracy, the effect of law is more in the deterrence than in the punishment after. The clarity of the law^[43] and citizens' knowledge of law^[40] are the bases of the deterrence effect of legislation. When the law states what acts violated the copyright protecting law clearly and in what condition citizens will get what kind of penalty, people will think twice before they commit piracy^[43–45] and be more willing to do the right thing. Government regulations will bring the recognition of the ethical issue of free digital music versus paid digital music. In all, deterrence effect of the legislation has moderating effects on the influential factors of WTP and customers' level of WTP.

H₇: Deterrence effect of the legislation has moderating effects among customers' free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm, habit strength and customers' willingness to pay (WTP) for digital music.

Fig. 1 shows the research model with the hypotheses above.

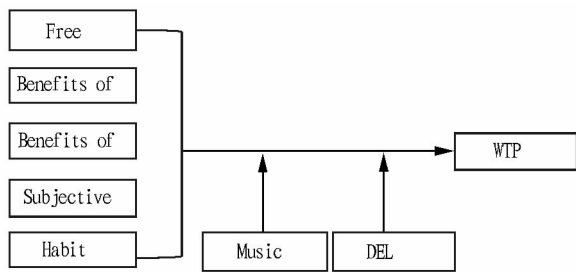


Fig. 1 Research model

3 Measurement

The questionnaire is composed of research background and instructions, demographic characteristics, consumers' WTP for digital music downloading. The WTP for music downloading is developed based on the scale of the willingness to pay for non-pirated software^[13, 41]. For core variables, the free ideology items are adopted from the items for freeware ideology of the Internet in the research of Shang *et al.*^[20]; the benefits of free downloading are adopted from the benefits of piracy^[7]; the benefits of paid downloading are taken from scale of social cost of piracy^[7], social benefits^[4], fairness to singers and industry^[4], taking account of the ideological characteristics of the Chinese samples; the scale for subjective norm is adopted from the research of Al-Rafee&Cronan^[3]; the music affinity scale is taken and adopted from the researches of Kinnally *et al.*^[15] and Jambon *et al.*^[14]; the deterrence effect of legislation is adopted from the research of Kwong& Lee^[6]; the

habit strength scale is adopted from the research of Moores& Dhillon^[46]. We use five-point Likert scale with "1" indicating strong disagreement and "5" indicating absolute agreement. The items are refined based on two pilot experiments in June and September to ensure the reliability and validity.

4 Data collection and sample

The surveys were conducted in two ways. We collected data online on the questionnaire collection website Questionnaire Star <http://www.sojump.com/>, and on the spot in three universities in Wuhan City in October, three months after the National Copyright Bureau published the announcement and the charging system was carried out officially. The respondents were asked to answer a self-report questionnaire. 525 questionnaires were collected in total and 517 were valid and complete, of which 132 were collected online. The respondents are almost equally distributed between male 247, 47.8% and female 270, 52.2%. Approximately 70.8% of the respondents are between 19–25 years old and 71.2% are students, highly fitting the situation that most online music customers are young people, most of whom are students. Further descriptive statistics of the respondents are shown in Table 1.

Table 1 Descriptive statistics of respondents' characteristics (N=517)

Measure	Value	Frequency//%
Gender	Female	270 (52.2)
	Male	247 (47.8)
	Under 18	21 (4.1)
Age	19–25	366 (70.8)
	26–34	111 (21.5)
	35–44	14 (2.7)
	45 and beyond	5 (1.0)
Family's monthly income (in RMB)	Less than 5000	183 (35.4)
	5000–10000	208 (40.2)
	10001–30000	105 (20.3)
	30001–80000	11 (2.1)
	Over 80000	10 (1.9)
	Students	368 (71.2)
Occupational status	Farmers	3 (0.6)
	Officials & scholars	47 (9.1)
	Businessmen	75 (14.5)
	Other	24 (4.6)
Habitat	Countryside	100 (19.3)
	Towns	114 (22.1)
	Cities	303 (58.6)
Act of paying for music service	Yes	153 (29.6)
	No	364 (70.4)

5 Results

5.1 Reliability and validity analysis The multiple liner regression approach was used to validate the research model using SPSS 17.0. The reliability of the scale was tested with Cronbach's alpha. The results are shown in Table 2. The observed reliability coefficients (Cronbach's alpha) were 0.844 for free ideology (Q_1 , Q_2), 0.900 for perceived benefits of free downloading (Q_3 , Q_5),

0.862 for perceived benefits of paid downloading (Q_6, Q_9), 0.891 for subjective norm (Q_{10-11}), 0.793 for the habit strength (Q_{12-13}), and 0.768 for music affinity (Q_{14-15}), 0.729 for (Q_{16-17}). According to Nunnally (1978), the variable has sufficient reliability when the value of Cronbach's alpha is larger than 0.7. Given that we have seven factors, except for the perceived risks of paid downloading, the coefficients for the rest six factors are all larger than 0.700, the scale has good reliability. The value of KMO is 0.814, $P < 0.001$, indicating that the samples are adequate for factor analysis. We further used confirmative factor analysis (CFA) to test the validity of the constructs. A principal component analysis with orthogonal rotation using the varimax method was used to verify the factors. The results are shown in Table 3. The factor loading of the standardized items under certain constructs is all larger than 0.800, and the measurement has high internal consistency.

5.2 Hypotheses testing The regression analysis with the ordinary least squared (OLS) method was conducted to examine the effects of free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm and habit strength on consumers' WTP for digital music. Moderating regression analysis (MRA) was conducted to examine the moderating effect of deterrence effect of legislation and music affinity on consumers' WTP for digital music downloading. MRA is a specific method of multiple liner regression, in which the regression equation contains an "interaction term". If the interaction term is significant, then it means that the moderating effect exists. The re-

sults of estimating the main effects of these variables and the moderating effects of music affinity are shown in Table 3. According to Model 1, free ideology has a significant negative effect on WTP at 1%. H_1 is supported. Perceived benefits of free downloading have a negative effect on WTP at the significance level of 1%. H_2 is supported. Perceived benefits of paid downloading have a positive effect on WTP at the significance level of 1%. H_3 is supported. Subjective norm have a significant positive effect on WTP at 1%. H_4 is supported. But Habit strength has no significant effects on WTP, so H_5 is rejected. Model 2 includes the music affinity to test for its main effect on WTP. The results show that the music affinity has a negative effect on WTP at the significance level of 1%. In Model 3, when the interaction effect of the music affinity with free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm and habit strength are included, the value of adjusted ΔR^2 has significant change, indicating that music affinity has significant moderating effects between the five exogenous variables and WTP at 1%. Table 4 shows the estimating results of the moderating effects of the deterrence effect of the legislation. Model 2 includes deterrence effect of the legislation to test for its main effects on WTP. The results show that it has no main effects on WTP. In Model 3, when the interaction effects of DEL with free ideology, perceived benefits of free downloading, perceived benefits of paid downloading, subjective norm and habit strength included, the value of adjusted ΔR^2 have no significant change at all, so H_7 is rejected.

Table 2 Factor analysis of the seven key independent variables

Items	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	F ₇	Cronbach's Alpha
Q ₁	0.913							0.844
Q ₂	0.822							
Q ₃		0.887						0.900
Q ₄		0.895						
Q ₅		0.877						0.862
Q ₆			0.829					
Q ₇			0.858					
Q ₈			0.801					
Q ₉			0.807					
Q ₁₀				0.886				0.891
Q ₁₁				0.886				
Q ₁₂					0.921			0.793
Q ₁₃					0.903			
Q ₁₄						0.866		0.768
Q ₁₅						0.880		
Q ₁₆							0.873	0.729
Q ₁₇							0.878	

Table 3 Summary of models

Standardized regression coefficient (Beta)	Model 1	Model 2	Model 3
Free Ideology	-0.151 ***	-0.173 ***	-0.151
Benefits of Free Downloading (BFD)	-0.250 ***	-0.226 ***	-0.267 **
Benefits of Paid Downloading (BPD)	0.282 ***	0.285 ***	0.472 ***
Subjective Norm	0.132 ***	0.080 *	-0.082
Habit Strength (HS)	-0.035	-0.043	-0.275 **
Music Affinity (MA)		0.144 ***	-0.039
FI * MA			-0.038
BFD * MA			0.063
BPD * MA			-0.329
SN * MA			0.244
HS * MA			0.392 **
<i>F</i>	29.879	27.287	15.615
Adjusted <i>R</i> ²	0.226 ***	0.017 ***	0.011
<i>F</i> (ΔR^2)	0.000 ***	0.001 ***	0.201

Note: * significant at 10% ; ** significant at 5% ; *** significant at 1% .

Table 4 Summary of models

Standardized regression coefficient (Beta)	Model 1	Model 2	Model 3
Free Ideology	-0.151 ***	-0.165 ***	-0.236
Benefits of Free Downloading (BFD)	-0.250 ***	-0.256 ***	-0.365 **
Benefits of Paid Downloading (BPD)	0.282 ***	0.282 ***	0.279 ***
Subjective Norm	0.132 ***	0.119 ***	0.096 ***
Habit Strength (HS)	-0.035	-0.035	-0.029
Deterrence Effect of Legislation (DEL)		0.058	-0.137
FI * DEL			0.119
BFD * DEL			0.149
BPD * DEL			0.039
SN * DEL			-0.011
HS * DEL			0.236
<i>F</i>	29.879	25.240	15.211
Adjusted <i>R</i> ²	0.226 ***	0.003	0.002
<i>F</i> (ΔR^2)	0.000 ***	0.179	0.838

Note: * significant at 10% ; ** significant at 5% ; *** significant at 1% .

6 Conclusions and discussions

Based on a survey of 517 Chinese respondents, the data support our proposed research model and most of the hypotheses. We proved the effects of the free ideology, the perceived benefits of free downloading, and the perceived benefits of paid downloading, subjective norm on consumers' WTP for digital music. Consumers, who think that music should be offered free on the Internet and free music resources bring the society more benefits, have a lower level of willingness to pay for digital music. Customers, who think that pay for digital music brings more benefits to the society and have a higher level of subjective norm and hold related laws efficient, are more willing to pay for digital music. Besides, music affinity has influence on customers' WTP directly and indirectly while customers' habit strength has effects on their WTP for digital music. Customers, who hold that free music resources are beneficial to the society, are less willing to pay for digital music. It is undeniable that free music resources have certain benefits to the society and customers' daily life. But those benefits can also be

achieved through paid downloading. Customers, who hold that paid downloading is more beneficial to the society, have higher levels of WTP. If we want customers to accept and practice paid downloading, music websites and the mass media should make the benefits of paid downloading known to more people. Subjective norm has significant positive effects on customers' WTP.

This paper sheds light on the Chinese philosophy feeding such behaviors and habits. If the customers' consumption habits are to be changed, the philosophy is to be changed first. Music affinity has effects on WTP directly and indirectly. People, who put more emphases on music in daily life, are more willing to pay for digital music. Anyway, related laws and regulations are assumed to have deterrence effects on customers' intentions and behaviors. With the formation of digital music market, some changes are to be made in the field of the legislation. Customers' WTP may be affected by some situational factors like the newness, the quality and the price ratings of the music. But due to the effects of subjective norm and the deterrence effect of the legislation^[40], those once not

willing to pay will change their perception of the charging system, so longitudinal studies can be conducted in a more omniscient view. With Chinese government showing their resolution to curb the piracy activities online, the piracy of digital music is being deterred. Researchers should pay more attention to the transformation process. Research instruments more native to Chinese people should be developed.

This survey has made some progress. Western researchers hold that people in the collective society emphasize sharing, but Chinese also put much emphasis on intellectual property protection. The deterrence effect of the legislation is meaningful to Chinese sample and is becoming more important in the changing society. The benefits of free downloading should not be avoided and rejected. The benefits of free downloading and paid downloading are in consumers' head at the same time. The key point is to find what makes consumers choose paid downloading when they know both. When it comes to the habit strength for free downloading, it is fostered by the free ideology of the Internet and the long time free practice. For practitioners, first, related laws should be adapted to the new age to show its power. This research suggests that the pricing of music and setting of charging patterns should take into consideration consumers' acceptability and access preference. Downloading is not as accepted as membership. Music quality may be the most influential factor on consumers' WTP. The most important point that this survey has shown is that consumers are changing, and they are becoming willing to pay for digital music. Consumers get music in more than one way. The different ways sometimes collide with each other. And music websites also apply mixed charging methods, which is not acceptable and unfair in the customers' eyes.

The fairness and the efficiency of charging system are very important to customers' perception and behavior conversion. Proper charging system should strike a balance between extant different charging systems and cater to customers' preference for mixed access. Proper pricing is of great importance to keeping the customers and making the transformation smooth. For music website membership, 5 yuan/month and 10 yuan/month are quite acceptable. The behavior of paying for legal digital music includes paying for music downloading, for membership and for streaming. Youngsters nowadays consider the use of streaming more convenient^[11]. In China, e-shops are selling membership and more than one person can use the same membership at the same time. And cloud computing storage may make music – file sharing the new form of music piracy. This paper only studies WTP for digital music downloading. Customers with different music listening habits and interests will have preference for different charging patterns. If the charging system is to be carried out widely but without efficiency or fairness, more unauthorized sharing will be encouraged^[27].

7 Recommendations

In the future, more attention should be paid to Chinese problems. In the digital music market, there goes on a fight for music copy-

right on the upper stream of the music charging. It has formed several copyright pact protocol allies. Because of the copyright allies and conflicts, people will use different APPs and websites, with the potential effects of reducing people's WTP and the acceptable prices. Consumers may have a struggle for using different music apps. The data are collected a short time after the charging system is carried out officially. The long-term effects such as behavior change and the cognition of copyright protection need to be studied. Some qualitative methods should be used to explore new theories more applicable to Chinese samples. Some items are extracted from the content in artificial communities. Future studies should apply qualitative methods more strictly to create theories. Some personal and situational factors are not explored, such as the moral levels, the fondness of specific artists and the resource richness of some websites. These factors may influence customers' cognition of the value of the price. Some customers show concerns about the charging system as to its fairness. It is of great importance for the music websites and platforms to strike a balance between the paid music service and the free resources.

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4 Conclusions

The huge size of population and grain demand has determined that solving the food problem on the basis of domestic farmland resources is always the foundation of development. To ensure grain security in China, the 120 million ha of farmland is the red line that can never be crossed. Therefore, farmland protection doesn't only mean defending the quantity, but also improving the quality. For this purpose, the government has introduced a series of policies related to farmland construction and protection to stabilize farmland quantity, improve farmland quality and realize grain self-sufficiency. However, there is still a large area of farmland with quality and basic conditions far inferior to the requirements of high and stable yield and the modern agricultural production system. Constructing a certain scale of high standard farmland to form high-yield, stable-yield and high-efficiency core farmland resources is an effective way to sustain our grain safety and accelerate agricultural modernization. It is of great significance to deepening and expanding the connotative meaning covering farmland quantity, quality and comprehensive ecological protection etc.

The construction of high standard capital farmland contributes to achieving the linkage among farmland standardization, mechanization and scale as well as the improvement in agricultural machinery work capacity, farmland irrigation & drainage ability and farmland productivity. It is of great significance to improving farmland quality and productivity, and is an important initiative to guarantee national grain security, speed up modernized agriculture development and promote new rural construction.

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