

Winning over Grassroots Consumers: An Empowerment Perspective of Yu'E Bao

Research-in-Progress

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Abstract

Recent years have witnessed the great potential of technological innovations in helping developing economies tackle financial exclusion, a key obstacle in reducing poverty and accelerating economic growth. Yet, the way that technology innovations should be designed and utilized to deliver inclusive finance has remained obscure. In this study, we undertook an in-depth qualitative case study of Yu'E Bao, an online market fund, which has revolutionized the online finance sector in China. The incredible feat of Yu'E Bao has made financial institutions in China start focusing on potential cumulative wealth of the large population of financially underserved "grassroots consumers". Drawing insights from empowerment theory, we explicate the mechanisms through which an IT-enabled innovation can successfully engage and leverage the financially underprivileged population to progress towards financial inclusion. Our findings underline important theoretical, economic and societal contributions, viz. exploitation of empowerment mechanisms, acknowledgment of grassroots' economic potential, and IT-enabled financial inclusion.

Keywords: Empowerment, IT innovation, Internet finance, Grassroots consumers, Financial inclusion

Introduction

As reported by the World Bank, 2 billion world population still remains unbanked in 2014 (The Economist 2015). Financial exclusion prevails because financial services are either costly or difficult to use, thereby hampering wide access. Fortunately, the great potential and importance of technological innovations has been recognized in helping developing economies expand financial access and alleviate financial exclusion (Demirgüç-Kunt et al. 2015; TechUK 2015), a key obstacle in reducing poverty and accelerating economic growth.

Since June 2013, China has witnessed a dramatic and unprecedented change in the landscape of financial sector (Barboza 2014). China's Internet giants, such as Alibaba Group Holding Ltd., Baidu Inc. and Tencent Holdings Ltd., have all made a venture into Internet finance, thereby attracting much attention from all parties and undoubtedly accelerated the financial reform in China. In particular, Yu'E Bao (an online money market fund embedded in Alipay, an affiliate technology of Alibaba), the bellwether in this revolution, has attracted over 81 million users with an aggregate deposit of more than RMB 500 billion (approximately US\$ 80 billion) within a short span of nine months! This incredible feat by Yu'E Bao has made financial institutions in China start focusing on the large population of "grassroots consumers" (also known as "cao gen" in Chinese) which they have previously overlooked and hence underserved due to a lack of interest as these grassroots consumers earn little and possess relatively small amounts of savings. Instead, financial institutions choose to prioritize and serve consumers with high net worth. They have evidently forgotten the wise old adage "many a little makes a mickle"!

As the success of Yu'E Bao is unprecedented, it warrants an in-depth investigation and understanding. Although financial institutions have begun acknowledging the cumulative wealth of grassroots consumers (Beshouri 2006), there is little systematic scholarly examination on how to harness the potential of grassroots consumers through IT financial innovation. Moreover, there is also scant understanding of the mechanisms by which financial exclusion could be ameliorated by radically changing grassroots consumers' mindsets and behavior so as to induce their financial interest and participation. Hence, our research question is:

How does IT innovation successfully leverage grassroots consumers in a market with a high entry barrier in developing countries?

To answer the research question, we decide to adopt the qualitative case study approach (Yin 2013), which is most apt for a revelatory case. Through our comprehensive investigation of Yu'E Bao, we attempt to uncover the underlying mechanisms of how an IT financial innovation could help mitigate financial exclusion of the grassroots consumers. From our preliminary data collection and analysis, we unravel mechanisms of "empowerment", and hence we build our theoretical framework through the lens of "empowerment", which is defined as the process of enabling the powerless to gain power and exercise rights (Conger and Kanungo 1988; Hur 2006; Lincoln et al. 2002; Thomas and Velthouse 1990). We contribute by elucidating how Yu'E Bao has successfully exploited IT financial innovation to empower grassroots consumers both "perceptually" and "behaviorally" through two stages (namely "stage 1 fertilization" and stage 2 "germination") and four mechanisms (namely "conscientization", "self-assurance", "incentivization" and "enticement").

Theoretical Background

Empowerment has been studied across a range of disciplines, including community psychology, social movements and politics, management, information systems and marketing (see Table 1). Originated from the concept of power (Thomas and Velthouse 1990), "empowerment" is construed as "to enable or energize" or "to gain power over" (Lincoln et al. 2002; Thomas and Velthouse 1990). Aforementioned, it is defined as the process of enabling the powerless to gain power and exercise rights (Lincoln et al. 2002). Three characteristics identify individuals who are "empowered". First, there must exist individual, managerial, social or political disturbances that cause the existence of alienation prior to triggers of empowerment (Hur 2006). Second, the achievement of empowerment requires the change in both individuals' perception (cognitive aspects) and actual behavior (behavioral aspects) (Breton 1994; Conger and Kanungo 1988; Swift and Levin 1987). Third, there exists some social, structural, or psychological catalyst triggering the changes.

Empowerment can be studied from two perspectives: social-structural perspective and psychological perspective. Social-structural perspective is rooted in the belief in democratic politics that power resides in each level of the structure or system (Prasad and Eylon 2001). Psychological perspective is built upon social learning, motivation theory and other psychological concepts. It examines the use of techniques and a set of conditions that could motivate individuals in a stigmatized social category to feel in control of their own fate (Conger and Kanungo 1988; Spreitzer and Doneson 2005). In doing so, the empowered individuals increase their level of self-efficacy (Lincoln et al. 2002). Noteworthy, our research question focuses on psychological perspective.

The advent of IT and Internet have further facilitated empowerment (Barak et al. 2008; Doll and Deng 2010; Ghose 2001; Sia et al. 2002), by equipping individuals with more information availability, larger choice sets, and more personal control (Fuchs et al. 2010; Rezabakhsh et al. 2006; Tiu Wright et al. 2006b). Individuals are bestowed more power to decide and choose what they want to do in the present instead of waiting to be reached in the past (Füller et al. 2009). Also, individuals have more influence over new product design and development (Füller et al. 2009), which used to be primarily determined by the companies (Cova and Pace 2006). The increased power of consumers hence draws attention from companies and forces companies to adapt their strategies to the interests of the powerful consumers (Eric Boyd et al. 2010). Consequently, empowered individuals can influence and reshape companies' strategies.

Despite prior research effort, extant literature still lacks in three areas. First, few studies have unraveled the “black box” of empowering mechanisms (of consumers) underlying IT financial innovation. A genuine understanding of the mechanisms is crucial to guiding companies in exploring industries whose high entry barriers restrict its expansion and advancement. Second, as power may be specific to certain domains and contexts (Tiu Wright et al. 2006a), it is worthwhile investigating “empowerment” in Internet finance industry, which demands domain-specific knowledge. Third, although there is recognition and acknowledgement of the importance of grassroots consumers, there is a paucity of research enlightening how companies could achieve success through empowering grassroots consumers. In essence, it is vital that we analyze how a newly launched IT innovative product (i.e., Yu'E Bao) can revolutionize the Internet finance, by motivating and enabling grassroots consumers to overwhelmingly participate in the money market funds investment. For years, these grassroots were “ostracized” for the lack of domain-specific knowledge and financial assets.

Table 1. Summary of Empowerment Research in Various Disciplines

Disciplines	Research Areas
Social and Political	The mobilization of a dissident group to oppose the current leadership; the transformation or change of power structure; the achievement of justice and equality (Hur 2006; Lincoln et al. 2002; West 1990)
Community Psychology	Community building; participant involvement (Adamson 2010)
Management	The psychological process of empowering; the contextual or environmental factors that influence empowerment; the change or reconstruction of organizational structure (Hur 2006; Thomas and Velthouse 1990)
Information Systems	The impact of employee or consumer empowerment under various information technology intensive context; personal empowerment through the Internet technologies; digital empowerment that enables community-driven development (Amichai-Hamburger et al. 2008; Barak et al. 2008; Füller et al. 2009; Leong et al. 2016; Seidmann and Sundararajan 1997)
Marketing	The advent and impact of consumer power; consumer empowerment and its effects in brand involvement, new product development process and firm performance; consumer power and the Internet enabled technologies (Cova and Pace 2006; Eric Boyd et al. 2010; Tiu Wright et al. 2006a; Tiu Wright et al. 2006b; Tiu Wright et al. 2006c; Wathieu et al. 2002)

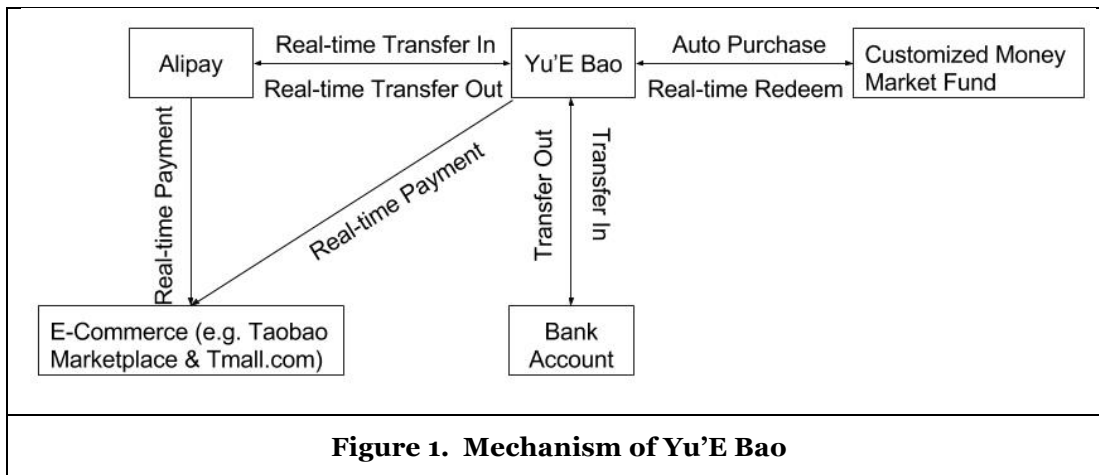
Case Description

Yu'E Bao (see Figure 1) is launched in June 2013 in China. It removes paperwork and intermediary formalities needed when applying for traditional investment products. By simply adding one icon to Alipay, consumers can easily initialize Yu'E Bao account and transfer money. The minimum investment required is just RMB 1, in contrast to most money market fund products offered by banks requiring at least RMB 5,000. Moreover, Yu'E Bao offers consumers an average annualized interest of 6% in 2013 with the principal being guaranteed. Although the exact return may fluctuate, it is still relatively higher than the interest rate of traditional bank deposit (at about 0.35% per annum). Noteworthy, there is no fixed maturity date, hence consumers are free to withdraw money any time, as the earnings can be calculated

daily. Taking advantage of Alipay platform, money in Yu'E Bao can be used to pay bills (such as utility and credit cards) and e-commerce shopping.

Being the fastest-growing money market fund in China, Yu'E Bao has achieved impressive milestones. Within 5 days of its inception, it has attracted 1 million consumers. By November 14, it has attracted 30 million consumers, with RMB 100 billion. This approximates 20% of the total size of China's 78 money market funds in terms of assets. By the end of 2013, Yu'E Bao has attracted 43 million consumers, with RMB 185 billion. By January 15, 2014, it has grown to 49 million consumers, with RMB 250 billion. By February 6, 2014, it has exceeded 61 million consumers. 20 days later, it increases to 81 million consumers. By early March 2014, the total deposits in Yu'E Bao have exceeded RMB 500 billion, making it the 3rd largest money market fund in China and the 7th largest fund in the world!

Yu'E Bao's success has revolutionized China's financial industry and accelerates its reform. Other Internet companies are eager to emulate Yu'E Bao's success and hence many similar products have been launched, such as Bai Zhuan (by Baidu Inc. in October 2013) and Li Cai Tong (by Tencent Holdings Ltd. in January 2014). For example, Li Cai Tong is embedded in WeChat, Tencent's popular mobile chat application. Capitalizing on WeChat 600 million registered users, Li Cai Tong has achieved RMB 80 billion by end of February 2014. In essence, targeting at grassroots consumers (which are underserved by traditional financial institutions), Yu'E Bao and other similar IT financial innovation has managed to engage and leverage grassroots consumers.



Proposed Research Method

Yu'E Bao is regarded as a novel and revolutionary IT innovation, and has created great industrial and societal impacts within a short span of time since its launch. Therefore, to understand and explore the case of Yu'E Bao, we conduct an interpretive study and adopt the revelatory case study approach, which helps in-depth understanding of exemplary and significant case and theorization of new and interesting phenomena (Yin 2013). The qualitative approach also helps address the questions of “how” and “why” in our research question (Edmondson and McManus 2007; Yin 2013). To conduct a systematic and in-depth analysis of this novel case, we follow the steps stipulated in Eisenhardt (1989) and (Eisenhardt and Graebner 2007).

We intend to collect our data from various sources. For the pilot study, we gather secondary data from published materials and archival data. For the final study, we intend to conduct interviews with both the executives of Yu'E Bao and the grassroots consumers. Interviews provide rich, targeted and insightful information (Eisenhardt and Graebner 2007). Triangulation of data (and evidence) (Denzin 1973; Yin 2013)) from various sources help enhance the robustness and credibility of our findings.

Table 2. A Sample of Coding (Yu'E Bao)

Examples	First-order Category	Second-order Category
<i>“When designing Yu'E Bao, we adopted a product segmentation strategy – we left the financial logics to the system and presented the easiest observable operations to consumers.”</i>	Simplicity in product design principle	Low Knowledge Barrier
<i>“In fact I don't know it is a money market fund ... It is good to earn some interests, and anyway there is nothing to lose.”</i>	Yu'E Bao does not require finance expertise	
<i>“Alipay is the most important traffic entrance that is leveraged by Yu'E Bao.”</i>	Alipay users are driven to Yu'E Bao	High Perceived Familiarity
<i>“I am accustomed to shopping on Taobao and very familiar with Internet payments such as Alipay. As such, Yu'E Bao has garnered my attention since its launch.”</i>	Alipay users find Yu'E Bao familiar to use	
<i>“There is even an option called ‘Pay by Yu'E Bao’ on Taobao payment page ... As a consumer, a simple click can transfer money out of Yu'E Bao and make payments!”</i>	Convenience for online shopping	High Perceived Utility
<i>“Yu'E Bao, however, yields interests every day.”</i>	High economic returns	
<i>“My roommates all have deposited money into Yu'E Bao, from a few hundred to more than ten thousand. As there is no entry barrier, the amount does not really matter.”</i>	Low entry barrier	Low investment requirement
<i>“The investment requirement for Yu'E Bao is very low, just RMB 1.”</i>	Low entry barrier	

Pilot Study – Preliminary Data Collection and Analysis

As a pilot study, we collected our secondary data on Yu'E Bao from 7 top platforms (i.e., 3 top Chinese news portals (Sina.com, Xinhua News, and People's Daily) and 4 top English newspapers (Bloomberg, Wall Street Journal, New York Times, and Financial Times)). We collected all Yu'E Bao-related reports which involved interviews since Yu'E Bao's launch on June 13, 2013 until March 20, 2014 (i.e., a period of 40 weeks). A total of 73 reports were collected after removing duplicates due to various reasons such as cross-platform reproduction. As 3 newspapers were in Chinese, we also employed a professional translator to ensure correctness of all translation. Each of the authors independently looked through these reports. We realized the two stages involved in the development of Yu'E Bao as the bellwether of Internet finance industry. Next, we extracted interviews from those news reports and “coded” the data (Saldaña 2016) by two independent coders. In the first cycle, we adopted “descriptive coding” to identify our first-order categories. In the second cycle, we engaged in “pattern coding” to identify similarities/commonalities in the first-order codes to arrive at a few themes (Saldaña 2016). A sample of coding is shown in Table 2. Consequently, through an iterative process of concept coding and data analysis, our theoretical model was informed by our data and emerged.

Preliminary Findings and Discussion

From our initial data collection and analysis, we attempt to answer (1) how IT financial innovation (i.e., critical functionalities) of Yu'E Bao empower grassroots consumers, and (2) how a larger population is empowered after the successful launch and operation of Yu'E Bao in China's online money market funds market.

Premise of Empowerment

Clarifying the premise of empowerment is critical (Hur 2006). For our case study, there exist a large number of grassroots consumers who lack specialized financial knowledge and assets prior to the launch of Yu'E Bao. These grassroots consumers belong to a stigmatized social category due to high entry barriers imposed by institutionalized resistance and their limited ability (Craig 2007). In terms of “physical barrier”, institutionalized resistance results from the enforcement of minimum investment requirement by traditional money market funds. This requirement typically exceeds grassroots consumers’ limited ability and prevents them from partaking in investment activities, leaving them powerless. In terms of “mental barriers”, financial industry demands domain-specific knowledge to participate successfully. Grassroots consumers who are novices tend to be less cognizant and will incur high learning cost if they want to get involved. Bearing in mind that investment is typically for the experts rather than novices, grassroots consumers tend to opt out rather than be “stigmatized”. In sum, both physical barriers and mental barriers impede grassroots consumers from participating in money market funds, until the launch of Yu'E Bao which empowers them. Two stages (i.e., fertilization and germination) have been identified.

Stage 1: Fertilization

In Stage 1 - Fertilization (see Figure 2), our analysis reveals that Yu'E Bao's IT financial innovation boasts of 4 critical functionalities that serve as enablers to “empower” grassroots consumers, changing both their perception and behavior.

Critical Functionalities of Yu'E Bao: Four Enablers

The first critical functionality is “low knowledge barrier”. Investment in Yu'E Bao is easy as grassroots consumers are shown the 7-day annualized interest rate, and the expected amount of returns. In contrast to most traditional financial products with professional and complicated instructions or terms and conditions, Yu'E Bao emphasizes simplicity and clarity in product design and process design. A Yu'E Bao designer highlighted this best, *“the most important success factor is the user experience ... to be more specific, its simplicity.”*

The second critical functionality is “high perceived familiarity”. As Yu'E Bao is embedded in Alipay, over 300 million registered Alipay users automatically become its main target consumers. Yu'E Bao adopts similar operation flow as Alipay and hence it comes across as just an additional financial application on Alipay. Therefore, Alipay users could perceive a high familiarity and acceptance even if money market fund may sound remote to them in reality. As a consumer put in, *“I am... very familiar with Internet payments such as Alipay.”*

The third critical functionality is “high perceived utility”. Aforementioned, Yu'E Bao interests is typically higher than traditional financial institutions (average annualized interest of 6%). Moreover, it allows grassroots consumers to withdraw freely any time, making it an ideal place to park their spare money, until it is needed (say to pay bills and online shopping). Concurring, a consumer remarked, *“Yu'E Bao ... yields interests every day.”*

The last critical functionality is “low investment requirement”. As Yu'E Bao requires only RMB 1 to initiate an account for investment (in contrast to traditional financial institutions requiring RMB 5000), the entry for barrier is near to negligible. With no other administrative fees, grassroots consumers are enticed.

Perception and Behavior: Two Components

Empowerment has to change both perception and behavior of individuals (Conger and Kanungo 1988). “Perception” encompasses an emotional component (i.e., one's perceived competence of exerting influence) and a cognitive component (i.e., the skills and knowledge necessary for exerting influence) (Christens 2012). When individuals start believing that they can adequately manage the situation or perceiving they have power, they have been “empowered” (Conger and Kanungo 1988). From Figure 2, it is evident that “low knowledge barrier” and “high perceived familiarity” are related to changing perception. “Behavior” refers to the actual actions in pursuit of better life situations (Breton 1994; Hur 2006; Spreitzer and Doneson 2005). From Figure 2, it is evident that “high perceived utility” and “low

investment requirement” are related to changing behavior. Both “perception” and “behavior” are equally important and related, to achieve “empowerment”.

Empowerment Mechanism: Four Effects

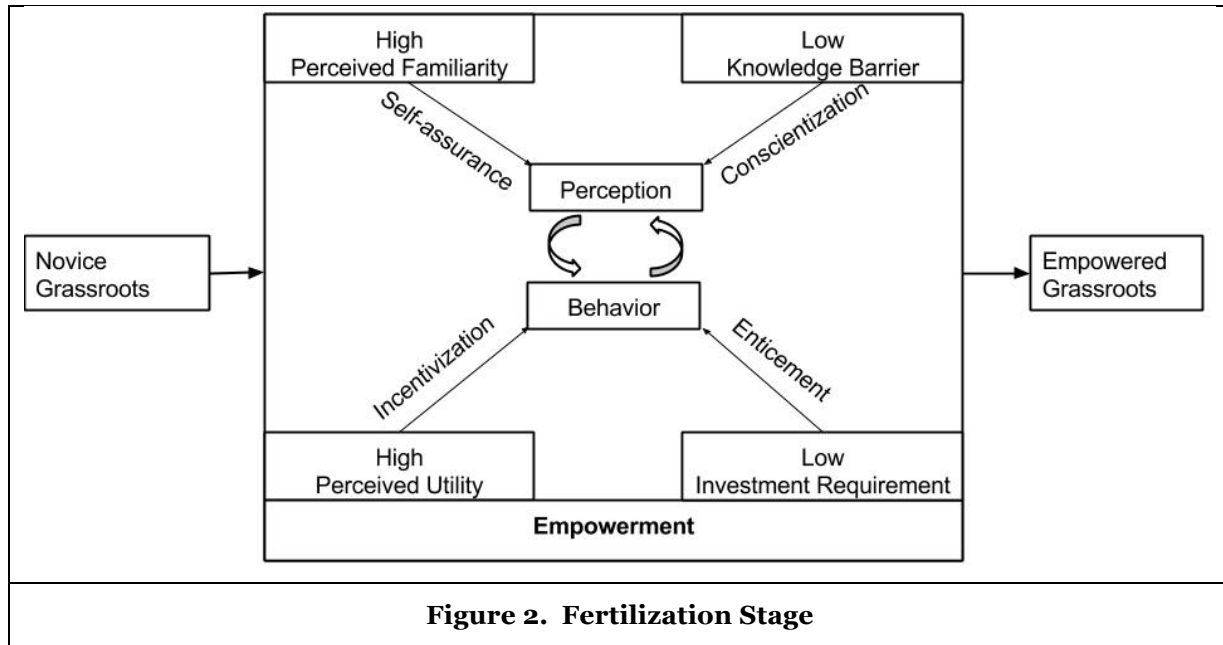
We have also identified four effects that confer empowerment (see Figure 2), namely conscientization, self-assurance, incentivization and enticement. Conscientization and self-assurance primarily act on grassroots consumers’ perception, whereas incentivization and enticement affect their behaviors. None of the four effects is dispensable. The combination of these four effects hence constitutes the core of the empowerment mechanism.

Conscientization can lead to empowerment because with its effect, the powerless not only become aware of their rights to access IT financial innovation, but also achieve a higher self-efficacy and confidence that they are capable of doing so (Breton 1994). The first critical functionality “low knowledge barrier” encourages grassroots consumers with a “can do” attitude, even though they may lack the experience and expertise to make informed decisions in money market funds. Over time, they may develop a better sense of financial mastery. For example, a young lady, who used to “live from paycheck to paycheck”, gave Yu’E Bao a trial by depositing a token sum, RMB 200, when she first saw it on Alipay. The initial earnings from Yu’E Bao reassured her and fundamentally changed her attitude towards investment and she even started picking up relevant financial knowledge. She informed, “as my savings increased, I realize that financial management is the way to go ... a way to keep up with times ...”.

Self-assurance can lead to empowerment because, with familiarity, grassroots consumers’ trust and confidence is boosted and power is perceived. Familiarity refers to an understanding of current actions of others built upon previous interactions, experiences and learning (Gefen 2000; Luhmann 2000). It is a subjective way for individuals to reduce uncertainty and simplify their relationships with others (Das and Teng 1998). Familiarity is believed to be a crucial antecedent of trust (Gefen 2000; Luhmann 2000), as it not only provides the context to formulate trust (Gefen 2000), but also creates concrete expectations to breed trust (Gulati 1995). With trust, confidence comes along. For example, a netizen demonstrated his confidence in Yu’E Bao, “Yu’E Bao’s security is totally dependent on Alipay. If Alipay is safe, so is Yu’E Bao!”

Incentivization informs of how grassroots consumers can be empowered behaviorally by “high perceived utility”. It aims at effecting actual adoption “action” (as opposed to mere perceptual change). Utility refers to the ability to fulfill the need and represents the level of satisfaction experienced by a consumer for a product (Marshall 2004). Yu’E Bao not only provides convenience to consumers (e.g., ease of online payment), but also more importantly, it ensures a relatively high return for grassroots consumers. Hence, the high utility of Yu’E Bao, manifested in its benefits, increases grassroots consumers’ incentives to use IT financial innovation, thereby empowering their actual behavior. For instance, a college student explained that his reason for adopting Yu’E Bao was partly due to the ease that he can pay at Taobao, China’s largest online shopping platform under Alibaba Group. Likewise, another female netizen agreed that she chose Yu’E Bao because she could pay for online purchases anytime anywhere without transaction cost, just like she was using Alipay, but with Yu’E Bao, she could earn some “extra pocket money” (i.e., interests).

Enticement informs of how grassroots consumers can be empowered behaviorally by “low investment requirement”. Noteworthy, assets and capabilities are two imperatives for “empowerment” (Narayan-Parker 2002). While assets, such as money, savings and land etc., allow people to expand their horizon, capabilities refer to individuals’ competency and skills to apply their assets productively (Narayan-Parker 2002). If the entry barrier (i.e., requirements) demanded of assets and capabilities are too high, grassroots consumers will feel powerless. “Low investment requirement” breaks the entry barrier to entice and tempt them to participate in these financial activities. For example, a fresh graduate with little savings expressed her excitement and power, “the investment requirement for Yu’E Bao is really low, just RMB 1 ... even as a fresh graduate, I have the power to invest!” Mr. Gao, the chief economist from Essence Securities, also acknowledged, “Yu’E Bao’s low investment requirement has enabled even the low-income population to gain much profits, leading to income redistribution in China’s financial market!”



Stage 2: Germination

For our pilot study, preliminary data also exposes a Stage 2 - Germination. The unprecedented success of Yu'E Bao has caught the attention (as well as envy) of other IT giants and traditional financial incumbents. Coined as the “catfish effect” of Yu'E Bao (Yue and Yu 2006), other companies also wish to emulate its success of Yu'E Bao. Being the first mover, Yu'E Bao has revolutionized China’s Internet finance industry.

Germination stage further empowers grassroots consumers in two ways: first, it intensifies the competition among online money market fund providers, resulting in more competitive IT financial innovation/products and better choices for grassroots consumers; second, as a whole, these online money market fund providers can gravitate more and more grassroots consumers toward financial investments and related activities. As empowerment in collective events can feed into large-scale social changes (Drury and Reicher 2009), the fact that more IT giants venture into online money market funds indicates a collection of empowerment processes. This empowerment of a larger population will give rise to a thriving market.

Potential Contributions

Our study will make several important theoretical, economical, and societal contributions.

First, our study contributes to both the empowerment and IT innovation literature by highlighting the impact of IT-enabled empowerment process with explicit empowerment mechanisms identified. Prior research on empowerment has started to realize the critical role of the Internet and IT innovations in consumer empowerment (Tiu Wright et al. 2006b; Fuller et al. 2009). Unfortunately, past studies have not been able to unravel the mechanisms of empowerment underlying IT innovation. Our study, however, bridges the empowerment and IT innovation literature by illuminating the “black box” of empowerment mechanisms through IT innovation. Our preliminary examination of Yu'E Bao’s empowering role in the Internet finance context not only corroborates the assertion in prior studies on the importance of IT to consumer empowerment; more importantly, it further unveils the “how” perspective – mechanisms through which an IT innovation can empower the underprivileged grassroots population to renovate the traditional market.

Second, our study further advances the literature on empowerment by juxtaposing the empowerment in the two stages and uncovering their distinctions and intricacies. First, the germination stage differs from the fertilization stage in terms of scale. While fertilization stage focuses on the empowering effects enacted

by a single IT innovation, germination stage escalates the effects to the industry level and therefore allows the empowerment of a much larger scale of grassroots population. Second, the germination stage of empowerment involves more stakeholders than the fertilization stage. In addition to the bilateral relationship between the IT innovation and consumers, our pilot investigation has also underlined the indispensable roles of other industrial players (e.g., other IT giants and traditional financial incumbents) and the intra-industry competition among them in the germination stage. Third, despite the two differences, the two stages' empowerment mechanisms share the same substantial effects at the individual consumer level (i.e., how the critical functionalities of the IT innovation empower consumers perceptually and behaviorally). Therefore, our findings on the differential but intertwined two stages provide some preliminary evidence on the dynamic nature of IT-enabled empowerment process.

Third, our research uncovers and underscores the economic potential of grassroots consumers, who are often overlooked in product marketing. Studies on grassroots consumers typically investigate their impacts on social structure and community movement (e.g., Agarwal et al. 2014; Castells 1983), but fails to acknowledge their “cumulative” economic value, especially in the Internet era. As a foray, we provide an initial proposal of an “empowerment framework” to engage grassroots consumers, which thus sheds light on a grassroots-oriented design strategy of IT innovation in the Internet finance context.

Lastly, our study specifically investigates the phenomenon of “IT-enabled financial inclusion”, which provides practical implications on boosting productive investment and consumption using IT innovation. Prior literature has suggested that financial exclusion is attributed to the barriers to the “access” and “use” of financial services (Demirgüç-Kunt et al. 2015). Our findings, hence, explicitly address to the physical barriers and mental barriers that have impeded grassroots consumers from participating in financial activities through empowering consumers' behaviors and perceptions respectively. Thus, our study makes societal implications on how to progress in financial inclusion through effective designing of IT innovations that breaks both the mental and physical barriers of consumers to financial services.

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