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Financial Literacy in Japan's Lending-Based Crowdfunding: The Role of Peripheral and Diagnostic Signals

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Abstract

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Keywords:

lending-based crowdfunding; financial literacy; signal quality

Article

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In this study, we empirically examine the determinants of fundraising success in Japan's lending-based crowdfunding (LBCF), with a focus on the financial literacy of investors. Using 465 campaigns on LBCF platform "Bankers" (Dec 2020–Sep 2024), we test two predictions derived from the lack of financial literacy hypothesis: (H1) investors are influenced by peripheral signals; (H2) diagnostic signals are not properly evaluated. Both are rejected. In cross-sectional tests, peripheral cues such as "Perks" are negatively associated with success, and the effects of "Title length" and "Purple highlight text" observed in simpler models vanish when analyzed jointly. By contrast, diagnostic information is consistently informative: "Domestic campaign" and "Co-investment" are positive, while "Investment term" is negative; "Investment capital" is also negative, contrary to prior expectations. The results are robust to controls for the campaign sector and to alternative specifications (probit; OLS on achievement rate). Overall, investors in Japan's LBCF appear to rely on diagnostic rather than peripheral signals, indicating financially literate, rational decision making.

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JEL Classification: G41, G21, D14

1. Introduction

In this study, an empirical analysis of the success factors in Japan's lending-based crowdfunding (hereinafter referred to as LBCF) is presented, with a particular focus on the financial literacy of individual investors. Recent advances in digital technology and the rapid diffusion of the internet have accelerated the development of diverse alternative financing methods [1–3]. Among these, crowdfunding has attracted significant scholarly and practical attention as a major alternative to traditional bank loans and venture capital. Within this broad category, LBCF has emerged as one of the leading forms [4,5].

LBCF is a mechanism through which the funds required for projects are raised from an unspecified number of individuals (the "crowd") via online platforms, and borrowers provide investors with financial returns in the form of interest payments. Crowdfunding encompasses several types of funding—purchase-based, equity-based, and donation-based—but in terms of the total volume of funds raised worldwide, LBCF accounts for a particularly significant share. In this context, whether investors in Japan's LBCF are

influenced primarily by peripheral signals (such as visual presentation and platform design features) or diagnostic signals (such as loan terms, collateral, or co-investment) was investigated in the present study. By distinguishing between these two types of signals, we aim to shed light on the extent to which Japanese retail investors exhibit financial literacy when making investment decisions in LBCF.

In Japan, LBCF has also been expanding as a new financing channel, with multiple platforms currently in operation. According to the Yano Research Institute, the overall crowdfunding market in the 2021 fiscal year amounted to JPY 164.2 billion, of which LBCF accounted for approximately 70 percent. Unlike peer-to-peer (P2P) lending overseas, Japan's LBCF operates under a distinct legal framework. It is typically conducted under the system known as "social lending," in which firms licensed as Type II Financial Instruments Business operators establish loan funds and enter into anonymous partnership agreements with investors. Platform operators play a central role by disclosing investor relation (IR) information provided by firms seeking funds, soliciting investors online, and conducting due diligence on loan cases. With the continued development of the information society, LBCF has become increasingly important as a means for startups to raise relatively modest amounts of capital from a large number of individual investors via the internet [6].

Academic research on the success factors of LBCF has been actively conducted, particularly in China, the United States, and Europe. Much of this work has examined the signaling hypothesis as a means of addressing information asymmetry between borrowers and investors. However, because crowdfunding is a financial service aimed at individual investors, the financial literacy of those investors is also critical from the standpoint of investor protection. In recent years, studies in equity crowdfunding have advanced our understanding of how the financial literacy of individual investors relates to campaign success factors [7,8]. However, no empirical research has specifically examined the success factors of Japan's LBCF market. More broadly, there remains a global lack of studies that analyze LBCF through the lens of individual investors' financial literacy.

This study aims to fill this research gap by identifying the success factors of funding in Japan's LBCF. A distinctive feature of our approach is the focus on the financial literacy of individual investors—a perspective that has not been explicitly addressed in prior research. Specifically, we collected and analyzed data from 465 campaigns completed between the launch of the first campaign in December 2020 and the end of September 2024 on Bankers, Japan's largest LBCF platform. Following earlier studies, we adopt the so-called lack of financial literacy hypothesis, which is derived from the signaling hypothesis. In this framework, signals are classified into two categories: diagnostic signals, which convey essential information for evaluating risk and return, and peripheral signals, which mainly pertain to presentation or design features. We then test whether these two types of signals influence the probability of successful fundraising, thereby assessing the presence or absence of financial literacy among Japanese retail investors.

The remainder of this paper is organized as follows. Section 2 reviews relevant prior research; Section 3 outlines the hypotheses and research methods; Section 4 presents the empirical results; and Section 5 discusses conclusions and directions for future research..

2. Previous studies

2.1. Signaling hypothesis

2.1.1. Overview of hypothesis

In LBCF, as in other forms of financing, there exists information asymmetry between borrowers and lenders (i.e., investors). Borrowers possess extensive knowledge about their own creditworthiness and the details of their campaigns, while the information

available to investors is limited. This imbalance makes it difficult for investors to assess risk appropriately and can lead to problems such as adverse selection and moral hazards. In such situations, signaling theory [9] provides an important framework for understanding how borrowers, who hold informational advantages, communicate private information regarding the quality and future prospects of their projects to potential investors. Borrowers attempt to gain the trust of investors by transmitting various signals to reduce information asymmetry. Comprehensive reviews of LBCF (e.g., [10]) likewise emphasize that a wide range of information can function as signals.

Building on the existing literature, previous studies have also examined signals from three major perspectives: (1) basic campaign conditions, (2) financial and credit-related information, and (3) borrower characteristics.

2.1.2. Basic Conditions of the Campaign

Loan terms represent the primary information examined by investors and function as key signals directly shaping investment decisions. The relationship between interest rates and fundraising success, however, remains mixed. Several studies report that higher interest rates can increase the probability of success [11,12], whereas others suggest that excessively high rates may discourage investors and reduce participation [13]. Shorter loan terms are generally associated with greater fundraising success, reflecting investors' preference for liquidity. This pattern has been observed across diverse markets, including China, Europe, Indonesia, and South Korea [11,14–17]. Likewise, a lower target amount is often interpreted as a signal of higher probability of campaign success [12,18,19].

In addition, the purpose and type of funding exert an important influence on investor behavior [13,20]. For instance, on platforms oriented towards social contribution, loans aimed at essential goods are funded more rapidly than those intended for business purposes [21]. More broadly, funding purposes have been examined in various lending contexts, including personal consumer loans [12] and auto loans [22].

Information on the financial soundness and credibility of borrowers is a crucial indicator for investors in assessing default risk. Credit scoring is the most typical measure, and both platform-specific and third-party credit scores have been examined in prior studies. Numerous analyses have shown that higher credit scores are positively associated with fundraising success (e.g., Cai, Lin, Xu, & Fu [11]; Grant & Deer [23]).

A borrower's past fundraising record is another important signal of reliability. Several studies have reported that a strong history of transactions and previous loan success facilitates subsequent fundraising [16,24]. More detailed indicators, such as the number of past delinquencies and the loan-to-borrow ratio, have also been incorporated into risk assessments. In particular, a high loan-to-borrow ratio has been found to negatively affect loan application success rates [29]. Borrower characteristics can further influence investors' evaluations. Some studies suggest that applications from small businesses are more likely to receive funding [25]. In specific contexts, such as Islamic financial markets, compliance with ethical standards has been identified as essential for building investor trust [14,26].

Finally, research highlights the role of offline connections in LBCF. For example, the importance of offline verification has been demonstrated [27], and borrowers with larger social networks have been shown to enjoy an advantage in fundraising [28].

2.1.3. Borrower Characteristics

The demographic and personal characteristics of borrowers have also been interpreted as potential signals in prior studies. For example, research has indicated that female entrepreneurs may face disadvantages when applying for business loans [30]. In China, female borrowers tend to be charged higher interest rates despite exhibiting lower

default rates [31]. Conversely, some platforms appear to favor women or enable them to raise funds more quickly [21,32].

The annual income and educational background of borrowers can likewise serve as proxy indicators of credibility and repayment capacity. Several studies have reported that higher income contributes positively to fundraising success [23,27], and that borrowers with higher levels of education achieve higher success rates [15,33]. Evidence regarding borrower age is mixed. Some studies find a positive correlation between older age and fundraising success [27], while others suggest that borrowers who appear middle-aged or older in photographs may be disadvantaged in securing funding [20].

2.1.4. Economic Environment

In addition to the micro-level characteristics of individual campaigns and borrowers, the broader macroeconomic environment can also shape overall trends in the LBCF market and influence the success or failure of individual campaigns. For example, changes in policy interest rates can alter relative return expectations and capital inflows into LBCF by affecting market lending rates and the attractiveness of alternative investment opportunities. Ramdhan et al. [34] demonstrate that benchmark lending and inflation rates are significant determinants in Malaysia's P2P lending market. Similarly, Foo et al. [35] report that macroeconomic variables—such as 10-year government bond yields, unemployment rates, and consumer price indices—are associated with P2P lending activities. These findings suggest that the role and performance of LBCF may vary substantially depending on broader economic conditions.

2.2. Lack of Financial Literacy Hypothesis

Most previous studies on the success factors of LBCF have been grounded in the signaling hypothesis as their primary theoretical framework. Similar approaches can also be observed in research on other types of crowdfunding, such as equity-based and reward-based crowdfunding. In traditional corporate finance, decisions on lending or investment were primarily made by professional actors—such as banks and angel investors—who possessed specialized knowledge, experience, and expertise. By contrast, crowdfunding is a financing mechanism that broadly involves individuals as funders. In LBCF, represented by P2P lending, individual investors are the primary providers of capital.

However, individual investors do not typically engage in lending or investment activities on a daily basis and may lack sufficient financial knowledge and experience. Against this backdrop, research focusing on the financial literacy of individual investors has gained increasing attention as a determinant of crowdfunding success. For example, studies on Japan's equity-based crowdfunding suggest that investors' financial literacy may influence the likelihood of campaign success [7,8]. At the cross-country level, higher levels of financial literacy are associated with investors who play a stronger role in reducing information asymmetry, thereby making equity-based crowdfunding more likely to succeed and persist [36]. Similarly, evidence from Indonesia indicates that crowdfunding investors generally exhibit higher levels of financial literacy than non-investors [37].

Based on these studies, the lack of financial literacy hypothesis suggests that the literacy level of individual investors can be assessed from two perspectives. First, individual investors may fail to evaluate, or may undervalue, diagnostic signals that professional investors would naturally take into account. Second, peripheral signals—irrational or superficial information that professional investors would normally disregard—may nonetheless influence individual investors' decisions and thereby affect the success or failure of campaigns. In other words, the hypothesis implies that investors fail to rely on

diagnostic signals and are instead influenced by peripheral signals, deviating from the rational behavior typically expected of professional investors.

Khan et al. [38] tested the lack of financial literacy hypothesis in the context of LBCF. However, their analysis relied on a questionnaire survey of individual investors, raising concerns about recall bias and confirmation bias. To the best of our knowledge, no empirical study has yet employed transaction-level data that would minimize these risks.

Previous research has generally assumed that information provided by borrowers constitutes "rational" signals, analyzing how such information is perceived by investors and how it contributes to successful fundraising. Our review of the literature, however, indicates that many of the proxy variables adopted within the signaling hypothesis framework could instead be reinterpreted as proxies for the lack of financial literacy among individual investors. In particular, some variables traditionally treated as "rational" signals may in fact capture the tendency of investors to undervalue diagnostic signals and to be disproportionately influenced by peripheral signals. This reinterpretation underscores the need for closer scrutiny of how investor literacy shapes the effectiveness of different types of signals.

Among these variables are peripheral signals that professional investors would either disregard or interpret differently. For example, the length of the campaign description [15,39], the number of images or videos, and other visual elements have been identified as important in conveying the appeal of a campaign [20,40,41]. The campaign title, the quantitative detail of the description, and the specificity of numerical expressions have also been reported as factors influencing fundraising outcomes [13,15].

In addition, linguistic features such as the presence or absence of spelling mistakes [39], the use of punctuation marks [42], and the use of polite expressions [43] have been shown to shape investors' impressions of borrower reliability and campaign quality, which in turn may affect fundraising success. While these factors are not directly related to the fundamental value or risks of a campaign, they are highly relevant to financial literacy because of their potential to sway the decisions of individual investors.

Individual financial literacy has a significant impact on the quality of economic decisions throughout one's life—including saving, investing, and borrowing—and ultimately affects not only personal economic well-being but also the efficiency of the economy as a whole. This has been widely recognized in the international literature (e.g., [44]). In addition, the OECD and the World Bank Group emphasize the importance of enhancing financial capability from the perspective of financial inclusion and have promoted a variety of policy initiatives in different countries. These international trends strongly suggest that financial literacy constitutes an indispensable foundation for individuals to make informed and prudent financial choices in an increasingly complex environment. This recognition also underscores the relevance of examining financial literacy in the context of LBCF, where individual investors, rather than professionals, are the primary decision-makers.

Crowdfunding is a market in which a diverse range of individual investors participate, making it an excellent empirical setting for assessing financial literacy through the analysis of investment behavior. Much of the existing research has been grounded in the signaling hypothesis, treating the information provided by borrowers as rational (diagnostic) signals. However, insufficient attention has been paid to how such signals are actually interpreted by individual investors in light of their financial literacy levels, or how lower literacy may lead them to rely instead on peripheral signals and make irrational decisions (Table 1).

The purpose of this study is to fill this gap by empirically examining the process through which individual investors interpret signals, and by clarifying the role of financial literacy in shaping this process, using data from Japanese LBCF platforms. By elucidating

the mechanisms through which information influences investment decisions—and how a lack of financial literacy may lead to suboptimal behavior—we seek to deepen our understanding of investor decision-making in crowdfunding markets. The insights gained are expected to offer new perspectives for both signaling theory and financial literacy research, as well as contribute to international discussions on educational interventions and institutional design aimed at improving the financial literacy of individual investors worldwide.

Table 1. Signals in Crowdfunding from Prior Studies: Diagnostic vs. Peripheral.[1]

	Peripheral signals								Diagnostic signals																
	Financial Literacy								Basic Conditions							Financial information						Borrower Characteristics							
	Text length	Number of images	Loan title	Quantitative content	Spelling errors	Presence of video	Use of punctuation	Polite expressions	Loan-to-borrow ratio	Short loan term	Low loan amount	High interest rate	Business-purpose loan	Personal consumer loan	Auto loan	Credit score	Past fundraising record	Third-party credit score	Past loan success	Ethical adherence	Past delinquencies	P2B borrower	Female entrepreneur	Annual income	Higher education level	Older borrower	Military service	Offline connections	*Economic conditions (policy rate)*
Alrasyid et al., (2023)														+						+								
Badrova et al., (2023)										+	+																	
Barasinska & Schäfer (2014)										+	+	+					+											
Cai et al., (2016)									−	+	−	+				+			+		−							
Chen et al., (2017)												+					+	+					+					
Chen et al., (2018)								−		−	+	−				+							+					
Chen et al., (2020a)																							−		+	+		
Chen et al., (2020b)												+											+					
Chen et al., (2021)																			+									
Dorfleitner et al., (2016)	+				−																							
Edward et al., (2023)										+						+				+		+						
Emekter et al., (2014)									−							+		+										
Freedman & Jin (2017)												−					+										+	
Gafni et al., (2021)											+												+					
Grant & Deer (2020)			+											+				+						+					
Greiner & Wang (2009)	+	+							−		+	−				+			−							−	+	
Herzenstein et al., (2008)	+										+	+		+				+									+	
Kgorueadira et al., (2023)		+									+	−				+	+					+							
Kim (2020)												+																
Kim et al., (2020)	+			+						+	+	−				+	−				−		+	+			+		
Kuwabara & Thébaud (2017)		+								+	−	−	+			+							−					+	
Li et al., (2020)										+	+	−				+	+		+				+						
Mach et al., (2014)												+						+				+							
Moreno et al., (2019)										+	+					+						+							
Ordóñez et al., (2023)		+				+				+	+	−																	
Pope & Sydnor (2011)	+	+																+					+				+		
Ramdhan et al., (2024)										+	+		+																+
Tan et al., (2019)										−		−	+		+									+					
Tao et al., (2017)												−				+							+		+				
Wang et al., (2024)								+								+									+				
Yao et al., (2018)			+									−	+		−				+								+		

[1] '+' indicates a significant positive correlation, while '−' indicates a significant negative correlation.

3. Empirical analysis

3.1. Verification hypothesis

The main objective of this study is to offer a new perspective on the determinants of campaign success in LBCF, focusing specifically on the role of financial literacy. Traditionally, lending has been conducted by professional financial institutions—such as banks and non-bank lenders—regardless of the size of the loan. In contrast, individual investors have typically deposited their funds in banks and received returns indirectly in the form of interest generated by professional lending decisions. They have not been directly involved in evaluating loan opportunities, and thus financial literacy—understood as the ability to assess the merits of lending along with its associated risks and returns—has not been required.

On the other hand, in crowdfunding, individual investors directly provide funds to entities in need of capital. In this setting, investors are required to exercise financial literacy in order to decide whether to lend. Financial literacy was originally defined as "the ability to process economic information and make informed decisions regarding financial planning, asset accumulation, debt management, and retirement planning." With the rapid development of fintech, however, scholars have emphasized the need to expand this concept to encompass new forms of financial literacy [45]. Oh and Rosenkranz [46], for example, demonstrate a positive correlation between financial literacy and the expansion of P2P lending.

Despite this, a growing body of evidence indicates that many individual investors lack sufficient financial literacy. For instance, surveys show that a significant share of young adults fail to understand basic concepts such as interest rates, inflation, and risk diversification [44]. Moreover, the effectiveness of traditional financial education appears limited and tends to diminish over time [47]. In response, Fernandes, Lynch Jr., and Netemeyer [47] propose "just-in-time" financial education, while Drexler et al. [48] provide evidence for the effectiveness of simplified, "rules-of-thumb" approaches.

In Japan's social lending sector, concerns have been raised about inappropriate transactions and fraudulent practices, stemming from investors' limited understanding of the mechanisms and processes involved. Similarly, research on equity-based crowdfunding shows that, while fundraisers and platforms disclose information comparable to that provided to professional venture capitalists, individual investors often fail to fully utilize such information [7,8].

In the context of LBCF, insufficient financial literacy may prevent individual investors from accurately evaluating campaign information, leading them to misinterpret or overemphasize inappropriate signals. According to signaling theory, investors interpret the information available to them and use it as the basis for decision-making. However, when this interpretation is misguided, it can result in losses. A lack of financial literacy may therefore cause investors to assume unnecessary risks or form unrealistic expectations. Against this backdrop, the present study advances the following hypotheses.

H1: In LBCF campaigns, peripheral signals—those that professional investors would not normally regard as diagnostic—significantly increase the probability of success.

There are a total of seven proxy variables for H1: the number of explanatory texts, the presence of videos, the number of perks, the number of images, title length (number of characters), the presence of red thumbnails, and the number of purple characters (see the upper panel in Table 2). Among these, the number of perks does not reflect the intrinsic

value of the campaign. The remaining six variables pertain to the visual design and presentation of the campaign webpage, all of which can be freely manipulated by the campaign organizer. In this study, if these variables are found to exert a statistically significant effect on campaign success, we interpret this as evidence that individual investors have been influenced by peripheral signals that should not, from a financial literacy perspective, have been considered diagnostic.

H2: In LBCF campaigns, diagnostic signals that should be properly considered are not adequately evaluated and therefore do not influence the probability of campaign success.

H2 is derived from Spence's signaling hypothesis [9], which has been widely supported in prior research. The hypothesis posits that the information-holding party (in this study, the borrower) or the platform seeks to convey private information about the quality and intent of the campaign to the information-receiving party (in this study, individual investors) through observable behaviors (signals) in order to gain their trust. In this context, the sender expects that the information will be taken into account by investors, regardless of whether the content is favorable or unfavorable. However, if such information is not effectively incorporated into investment decisions, this can be interpreted as evidence that individual investors lack sufficient financial literacy.

Drawing on previous research, this study employs 11 variables as proxies for this hypothesis. Specifically, the variables listed in Table 2—"Domestic campaign," "Investment purpose (non-working capital)," "First-come, first-served," "Investment term," "Track record with Bankers," "Co-investment," "Collateral," "Risk analysis," "Borrower affiliated with a listed company," "Female borrower," and "Interest rate"—are examined. Previous studies have generally treated these variables as rational signals and found them to be significantly correlated with campaign outcomes. Therefore, if none of these variables function as effective signals, we interpret this as an indication that individual investors lack the financial literacy necessary to properly evaluate them.

Table 2. Hypothesis and proxy variables.

Hypothesis		Proxy variable	Sign	Explanation
H1: Peripheral Signals		Text length	+	A greater number of explanatory texts increases the likelihood of campaign success.
		Videos	+	The presence of a campaign introduction video increases the success rate (dummy variable: 1 = present; 0 = absent).
		Perks	+	A larger number of perks increases the probability of success.
		Images	+	A greater number of images enhances the probability of success.
		Title length	+	Longer titles, measured by the number of characters, increase the likelihood of success.
		Red color	+	The use of red in thumbnail images raises the probability of success (dummy variable: 1 = present; 0 = absent).
		Purple highlight text	+	A greater number of purple characters (Bankers' brand color) increases the likelihood of success.
H2: Diagnostic Signals	Basic conditions	Domestic campaign	+	Domestic campaigns are more likely to succeed because they provide a sense of security (dummy variable: 1 = present; 0 = absent).
		Investment capital (not working capital)	+	Campaigns aimed at investment capital, rather than working capital, are more likely to succeed because they signal growth potential (dummy variable: 1 = present; 0 = absent).
		First-come, first-served	+	First-come, first-served campaigns signal speed and recruiter confidence, thereby increasing the probability of success (dummy variable: 1 = present; 0 = absent).
		Investment term	−	Shorter investment terms reduce recovery risk and thereby increase the likelihood of success.
		Interest rate	±	Higher interest rates may attract investors (+) but also entail higher risk (−).
	Financial and credit information	Bankers' track record	+	Fundraisers with a proven track record are more trusted, which increases the probability of success.
		Co-investment	+	Fundraisers who invest in the same campaign are trusted because they share the same risk, raising the likelihood of success.
		Collateral	+	The provision of collateral reduces default risk and increases the probability of success.
		Risk analysis	+	Bankers' proprietary risk analysis mitigates information asymmetry, thereby enhancing the likelihood of success.
	Borrower characteristics	Partnership with listed companies	+	Partnerships with listed companies increase credibility and transparency, boosting investor confidence and the probability of success.
		Female	+	Female fundraisers bring unique management perspectives that are positively regarded, increasing the probability of success.
Control variable		Real estate		Although not a hypothesis tested in this study, campaign type may affect success; therefore, these variables are included as controls (real estate campaigns are excluded as they form the basis of the regression analysis).
		Digital finance		
		Fintech		
		Beauty		

3.3. Empirical analysis

3.3.1. Data

In this study, we analyzed Bankers, Japan's largest LBCF platform operated by Bankers Co., Ltd. We used data from 465 campaigns posted on the Bankers portal site between the first campaign (December 2020) and the end of September 2024. Based on these data, we conducted an empirical analysis using statistical models to examine the success factors of campaigns in LBCF. All data were collected from information available on the portal site accessible to investors. Each campaign page on the portal site displays a thumbnail image at the top, with the title in white text above it. The screen presents the funding status, while detailed information such as the planned distribution rate, investment term, fundraising method, target fundraising amount, and remaining fundraising time is listed at the bottom. Table 3 presents the descriptive statistics for each variable, and Table 4 shows the correlation matrix.

Table 3. Basic statistics.

Panel A: Qualitative variables.

	Yes / 1		No / 0	
	Success	Failure	Success	Failure
H1: Peripheral Signals				
Videos	15	8	261	181
Red	28	26	248	163
H2: Diagnostic Signals				
Domestic campaign	226	128	50	61
Investment capital	146	120	130	69
First-come, first-served	253	185	23	4
Bankers' track record	237	174	39	15
Co-investment	69	128	148	120
Collateral	229	131	47	58
Risk analysis	195	123	81	66
Partnership with listed companies	82	88	194	101
Female	49	21	227	168

Panel B: Quantitative variables.

	Success					Failure				
	N	Mean	S.D	Min	Max	N	Mean	S.D	Min	Max
H1: Peripheral Signals										
Perks	276	1.3	0.8	0.0	4.0	189	1.6	0.9	0.0	4.0
Images	276	0.6	0.9	0.0	7.0	188	0.6	0.8	0.0	5.0
Texts	276	858	488	115	2,705	189	842	509	113	3,247
Title	276	23	7	8	35	189	24	6	11	35
Purple	268	102	95	8	420	183	84	76	5	513
H2: Diagnostic Signals										
Investment term	276	9	4	1	24	189	12	4	3	24
Interest rate	276	6.7%	1.9%	2.5%	13.5%	189	6.7%	2.2%	2.5%	13.5%

Table 4. Correlation Matrix of Proxy Variables[1]

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Campaign success/failure	1.00	0.28	0.02	0.03	-0.17	-0.09	-0.06	0.08	0.16	-0.11	-0.13	-0.26	0.00	-0.09	0.10	0.16	0.06	-0.17	0.09	-0.02	-0.06	-0.16	0.10
2	Success rate (%)	0.28	1.00	0.04	0.14	-0.04	-0.17	0.06	-0.02	0.03	0.00	-0.54	-0.15	0.05	-0.01	0.12	0.10	0.02	-0.05	0.02	0.04	0.02	-0.06	-0.03
3	Text length	0.02	0.04	1.00	0.25	0.01	0.14	0.43	-0.16	-0.18	0.23	-0.06	-0.09	0.09	-0.13	0.10	-0.17	-0.32	0.10	-0.13	-0.01	0.26	-0.18	-0.12
4	Videos	0.03	0.14	0.25	1.00	-0.26	0.06	0.38	-0.07	-0.17	0.14	-0.20	-0.21	0.01	-0.01	-0.04	0.08	-0.16	0.14	-0.10	-0.08	0.25	-0.09	-0.08
5	Perks	-0.17	-0.04	0.01	-0.26	1.00	-0.09	-0.13	-0.47	0.04	-0.08	0.09	0.23	0.01	-0.01	0.43	0.05	0.29	0.09	-0.09	0.02	-0.10	0.10	-0.11
6	Title length	-0.09	-0.17	0.14	0.06	-0.09	1.00	0.25	0.14	-0.54	0.04	0.22	0.08	0.34	0.20	-0.37	-0.14	-0.38	0.13	0.29	-0.30	0.61	-0.04	0.32
7	Red color	-0.06	0.06	0.43	0.38	-0.13	0.25	1.00	-0.07	-0.35	0.26	-0.11	-0.13	0.29	-0.08	-0.17	-0.17	-0.33	0.23	-0.15	-0.09	0.51	-0.11	-0.13
8	Purple highlight text	0.08	-0.02	-0.16	-0.07	-0.47	0.14	-0.07	1.00	-0.01	-0.01	0.01	-0.04	0.18	0.03	-0.55	0.03	-0.20	-0.18	0.21	-0.10	0.01	-0.17	0.27
9	Domestic campaign	0.16	0.03	-0.18	-0.17	0.04	-0.54	-0.35	-0.01	1.00	-0.47	0.03	-0.23	-0.65	-0.11	0.31	0.07	0.37	-0.39	0.22	0.29	-0.77	0.23	0.21
10	Investment capital	-0.11	0.00	0.23	0.14	-0.08	0.04	0.26	-0.01	-0.47	1.00	0.06	-0.01	0.12	-0.06	-0.14	0.05	-0.26	0.09	-0.46	0.42	0.39	-0.47	-0.43
11	First-come, first-served	-0.13	-0.54	-0.06	-0.20	0.09	0.22	-0.11	0.01	0.03	0.06	1.00	0.16	-0.13	0.02	-0.05	-0.11	0.05	0.02	-0.05	0.05	-0.04	0.07	-0.05
12	Investment term	-0.26	-0.15	-0.09	-0.21	0.23	0.08	-0.13	-0.04	-0.23	-0.01	0.16	1.00	0.20	-0.02	0.01	-0.11	0.08	0.10	-0.08	-0.20	0.03	0.06	-0.11
13	Interest rate	0.00	0.05	0.09	0.01	0.01	0.34	0.29	0.18	-0.65	0.12	-0.13	0.20	1.00	0.08	-0.31	0.11	-0.37	0.06	-0.05	-0.42	0.59	-0.27	-0.04
14	Bankers' track record	-0.09	-0.01	-0.13	-0.01	-0.01	0.20	-0.08	0.03	-0.11	-0.06	0.02	-0.02	0.08	1.00	-0.15	-0.05	-0.06	0.09	0.12	-0.17	0.11	0.09	0.13
15	Co-investment	0.10	0.12	0.10	-0.04	0.43	-0.37	-0.17	-0.55	0.31	-0.14	-0.05	0.01	-0.31	-0.15	1.00	0.11	0.55	-0.05	-0.13	0.14	-0.38	0.23	-0.24
16	Collateral	0.16	0.10	-0.17	0.08	0.05	-0.14	-0.17	0.03	0.07	0.05	-0.11	-0.11	0.11	-0.05	0.11	1.00	0.11	-0.19	0.23	0.04	-0.15	-0.52	0.20
17	Risk analysis	0.06	0.02	-0.32	-0.16	0.29	-0.38	-0.33	-0.20	0.37	-0.26	0.05	0.08	-0.37	-0.06	0.55	0.11	1.00	0.06	-0.04	0.04	-0.49	0.27	-0.09
18	Partnership with listed companies	-0.17	-0.05	0.10	0.14	0.09	0.13	0.23	-0.18	-0.39	0.09	0.02	0.10	0.06	0.09	-0.05	-0.19	0.06	1.00	-0.31	-0.34	0.26	0.34	-0.28
19	Female	0.09	0.02	-0.13	-0.10	-0.09	0.29	-0.15	0.21	0.22	-0.46	-0.05	-0.08	-0.05	0.12	-0.13	0.23	-0.04	-0.31	1.00	-0.21	-0.17	0.02	0.88
20	Real estate	-0.02	0.04	-0.01	-0.08	0.02	-0.30	-0.09	-0.10	0.29	0.42	0.05	-0.20	-0.42	-0.17	0.14	0.04	0.04	-0.34	-0.21	1.00	-0.25	-0.23	-0.21
21	Digital finance	-0.06	0.02	0.26	0.25	-0.10	0.61	0.51	0.01	-0.77	0.39	-0.04	0.03	0.59	0.11	-0.38	-0.15	-0.49	0.26	-0.17	-0.25	1.00	-0.18	-0.16
22	Fintech	-0.16	-0.06	-0.18	-0.09	0.10	-0.04	-0.11	-0.17	0.23	-0.47	0.07	0.06	-0.27	0.09	0.23	-0.52	0.27	0.34	0.02	-0.23	-0.18	1.00	-0.15
23	Beauty	0.10	-0.03	-0.12	-0.08	-0.11	0.32	-0.13	0.27	0.21	-0.43	-0.05	-0.11	-0.04	0.13	-0.24	0.20	-0.09	-0.28	0.88	-0.21	-0.16	-0.15	1.00

[1] Dummy variables are also treated as continuous variables in the calculation.

3.3.2. Methodology

First, we performed a t-test to calculate the difference in means and a Wilcoxon rank-sum test to analyze the difference in medians for the quantitative data among the proxy variables of the hypothesis. The difference is calculated as shown in Equation (1). In this study, campaigns that reached their fundraising goal are defined as successful (1), and those that did not are defined as unsuccessful (0).

Difference = Mean/Median of successful campaigns – Mean/Median of failure campaigns (1)

Next, we divided the qualitative data of the proxy variables of the hypothesis into success/failure and verified the composition ratio of each using a chi-square test. Furthermore, we performed logistic analysis with the dependent variable set as "campaign success (1)/failure (0)" and the explanatory variables as the proxy variables for the hypothesis. The basic model of the logistic analysis shows how the success probability pi is determined by the explanatory variables, and is represented by Equation (2).

$$p_i = P(y_i = 1|X) = \frac{1}{1 + \exp\left(-(\beta_0 + \sum_{n=1}^{m} \beta_n X_{in})\right)} \quad (2)$$

Here, yi is a binary variable indicating the success or failure of a campaign, taking values of 0 (failure) or 1 (success). pi is the probability of campaign success, taking values between 0 and 1. The log odds ratio of this success probability is expressed as a linear combination of explanatory variables, as shown in Equation (3).

$$\ln\left(\frac{p_i}{1 - p_i}\right) = \beta_0 + \sum_{n=1}^{m} \beta_n X_{in} + \varepsilon \quad (3)$$

In this case, x represents the proxy variable or control variable for the hypothesis, and ε indicates the error term.

Finally, to check robustness, we performed a probit analysis using the same variables as in the logistic analysis, and OLS multiple regression analysis using the success rate (funding amount/target amount × 100) as the dependent variable, with the same explanatory variables as in the logistic analysis. The model equations are shown in Equations (4) and (5).

$$P(y_i = 1|X) = \Phi\left(\beta_0 + \sum_{n=1}^{m} \beta_n X_{in}\right) \quad (4)$$

Here, P(yi =1|X) is the probability of campaign i succeeding, yi is a binary variable indicating success or failure, Xin is an explanatory variable, β0 and βn are coefficients, and Φ is the cumulative distribution function of the standard normal distribution.

$$y_i = \beta_0 + \sum_{n=1}^{m} \beta_n X_{in} + \epsilon_i \quad (5)$$

Here, yi is the explained variable (success rate) ; Xin is the explanatory variables; β0 and βn are coefficients; and εi is the error term.

4. Results

4.1. Results of difference tests

Table 5 reports the results of chi-square tests examining whether there are statistically significant differences in the proportions of each variable between the two groups ("success" and "failure") based on qualitative proxy variables. The two qualitative variables presented in Panel A did not show any significant association with campaign success. In Panel B (quantitative variables), "Title length" was lower in successful campaigns than in unsuccessful ones, with the t-test significant at the 5% level for the mean and the Wilcoxon rank-sum test significant at the 1% level for the median. The use of "Purple" tended to be higher in successful campaigns, with the Wilcoxon rank-sum test indicating significance at the 10% level for the median. These results suggest that individual investors' funding decisions may be influenced by peripheral signals such as visual information, thereby supporting the lack of financial literacy hypothesis.

On the other hand, "Perks" tended to be lower in successful campaigns (negative correlation), which was significant at the 10% level in the t-test for the mean and at the 1% level in the Wilcoxon rank-sum test for the median. The lack of financial literacy hypothesis assumed a positive correlation between the number of perks and campaign success. However, the observed negative correlation suggests that individual investors may be averse to signals that diverge from the essence of such campaigns, thereby demonstrating their financial literacy. No significant differences were observed in the other variables.

Table 5. Results of difference tests (H1-related).

Panel A

	Yes / 1		No / 0		chi-square
	Success	Failure	Success	Failure	
Videos	65%	35%	59%	41%	0.35
Red	52%	48%	60%	40%	1.43

Panel B

	Success			Failure			Difference in Means	t-value	Difference in	z-value
	N	Mean	Median	N	Mean	Median				

										Medi-ans		
Title	276	22.5	20.0	189	23.7	23.0	-1.0	-2.04	**	-3.0	-2.50	***
Texts	276	855.3	729.5	189	842.4	710.0	12.9	0.27		19.5	0.55	
Images	276	0.6	0.0	188	0.6	0.0	0.0	-0.49		0.0	0.91	
Perks	276	1.3	1.0	189	1.6	1.0	-0.3	-3.66	*	0.0	3.61	***
Purple	268	101.9	72.0	183	83.6	71.0	18.0	2.18		1.0	1.68	*

In Table 6, Panel A presents the results of chi-square tests conducted on qualitative proxy variables for H2, divided into two groups based on campaign success or failure. Signals associated with gaining investor trust and reducing risk showed a positive correlation with the probability of success. Specifically, "Collateral" (success rate: 64%), " Co-investment" (65%), and "Female" (70%) all exhibited significantly higher success rates compared to cases where these factors were absent. Furthermore, "Domestic campaigns" (49%) had significantly higher success rates than overseas campaigns s, suggesting that these factors may function as signals reflecting Japanese investors' preference for safety and transparency (home bias).

Conversely, some signals yielded results contrary to general expectations. For instance, "Bankers' track record" and "Partnership with listed companies" were associated with significantly higher success rates when the response was "No." This suggests that investors do not merely take signals such as past performance or company reputation at face value, but instead evaluate the substantive content of each campaign more critically.

With regard to quantitative variables, the "Investment term" was significantly shorter (at the 1% level) for successful campaigns (Table 6, Panel B). This finding indicates that investors make rational decisions by assessing lower capital recovery risk and higher liquidity, which is consistent with previous research.

Table 6. Results of difference tests (H2-related).

Panel A

	Yes / 1		No / 0		chi-square	
	Success	Failure	Success	Failure		
Domestic campaign	64%	36%	45%	55%	12.38	***
Investment capital	55%	45%	65%	35%	5.14	**
First-come, first-served	58%	42%	85%	15%	7.93	***
Bankers' track record	58%	42%	72%	28%	4.19	**
Co-investment	65%	35%	55%	45%	4.48	**
Collateral	64%	36%	45%	55%	11.97	***
Risk analysis	61%	39%	55%	45%	1.61	
Partnership with listed companies	48%	52%	66%	34%	13.73	***
Female	70%	30%	57%	43%	3.87	**

Panel B

	Success			Failure								
	N	Mean	Me-dian	N	Mean	Me-dian	Dif-ference in Means	t-value		Dif-fer-ence in Medi-ans	z-value	
Investment term	276	9.4	12.0	189	11.5	12.0	-2.1	-5.79	***	0.0	5.28	***
Interest rate	276	6.69	0.060	189	6.69	0.065	-0.001	-0.006		-0.005	-0.09	

Bankers' campaigns are categorized into four sectors: "Real estate," "Digital finance," "Fintech," and "Beauty." Differences in success rates are evident across these sectors. Specifically, "Beauty" campaigns achieved a relatively high success rate of 73%, whereas "Fintech" campaigns had a lower success rate of 40%. "Real estate" and "Digital finance" campaigns recorded success rates of 59% and 53%, respectively (Table 7). The purpose of this study is not to analyze sectoral differences in success rates; therefore, industry-specific analyses are not conducted. However, since adjustments for these differences are necessary, these variables are included as controls.

Table 7. Success/failure ratio by sector.

	Success	Failure	Chi-square
Real estate	59%	41%	22.87***
Digital finance	53%	47%	
Fintech	40%	60%	
Beauty	73%	27%	

4.2. Cross-sectional analysis

Table 8 presents the results of a logistic regression analysis, where the dependent variable is a dummy coded as 1 for campaign success (reaching the target amount) and 0 for failure (not reaching the target amount). Proxy variables related to H1 are used as explanatory variables, while campaign industry ("Real estate," "Digital finance," "Fintech," and "Beauty") is controlled for.

The analysis shows that "Title" and "Perks" are negatively correlated with campaign success at the 1% significance level. These results contradict the lack of financial literacy hypothesis. Both variables are unrelated to the fundamental quality of the campaign: the number of perks is extraneous to the campaign itself, and the length of the campaign title is freely determined by the organizer. The lack of financial literacy hypothesis assumed a positive correlation with these variables, yet the observed negative correlation suggested otherwise. Specifically, individual investors may critically evaluate the rationale behind a long title or the offering of special benefits before making investment decisions. In other words, investors in Japanese LBCF appear to actively exercise their financial literacy.

However, Table 8 also indicates that the use of "Purple" is significantly and positively correlated with campaign success. The color of the text on the website is a peripheral signal unrelated to the campaign itself. If individual investors are influenced by this variable, it suggests a lack of financial literacy. Taken together, the analysis using only the proxy variables for H1 produced mixed findings: some results are consistent with the lack of financial literacy hypothesis, while others suggest the opposite.

Table 8. The result of logistic regression analysis (related to H1) [1].

	coef	std err	z-value	
Const	2.376	0.603	3.943	***[2]
Title	-0.078	0.029	-2.705	***
Perks	-0.368	0.117	-3.138	***
Red	-0.651	0.425	-1.531	
Purple	0.004	0.002	1.989	**
Sector	YES			
R2	0.060			
AICc	589			
BIC	621			

N	451

[1] The explanatory variable is a success dummy.
[2] *** indicates significance at the 1% level.

Table 9 presents the results of logistic regression analysis with a dummy variable for campaign success (set to 1) as the dependent variable and proxy variables for H2 as the explanatory variables. The campaign sectors (real estate, digital finance, fintech, and beauty) are controlled for.

There is a significant positive correlation with "Domestic campaigns" at the 5% level. Given that most investors are Japanese, this likely reflects a psychological tendency to find domestic campaigns easier to understand. "Investment term" is significantly negative at the 1% level. A longer investment term increases the risk of recovery, thereby lowering the probability of success, which is consistent with many previous studies.

"Investment capital" shows a significant negative correlation at the 5% level. While prior research generally reports a positive correlation, the results of this study indicate the opposite. Although interpreting this outcome is beyond the scope of this paper, one possible explanation is that, in Japan—where the banking system is highly developed—reliance on LBCF for business financing may occur only as a last resort after unsuccessful negotiations with financial institutions or other entities. Individual investors are likely to perceive this as an additional risk. Regarding credit risk, "Co-investment" shows a significant positive correlation with campaign success at the 10% level, suggesting that individual investors feel more secure when fundraisers also share the same risk, thereby increasing the probability of success.

As described above, not all proxy variables are correlated with campaign success, but several are significantly associated with it. This indicates that individual investors do, to some extent, respond to signals provided by borrowers and platforms. Overall, the results suggest that investors possess financial literacy.

Table 9. The result of logistic regression analysis (related to H2)[1].

	Coef	std err	z-value	
Const	1.81	1.34	1.83	
Domestic campaign	1.05	0.53	3.87	**[2]
Investment capital	-0.96	0.38	6.25	**
First-come, first-served	-0.74	0.61	1.45	
Investment term	-0.14	0.03	20.46	***
Bankers' track record	-0.54	0.36	2.34	
Co-investment	0.51	0.28	3.39	*
Collateral	-0.33	0.35	0.87	
Risk analysis	0.46	0.29	2.48	
Partnership with listed companies	-0.00	0.30	0.00	
Female	0.69	0.75	0.84	
Interest rate	13.59	8.77	2.40	
Sector	Yes			
R2	0.1377			
AICc	573			
BIC	634			
N	465			

[1] The explanatory variable is a success dummy.
[2] ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Tables 8 and 9 independently test the two hypotheses regarding campaign success. Table 10 presents the results of analyzing the proxy variables for both hypotheses simultaneously. In this specification, the proxy variables for H1 and H2 are examined to determine whether they influence campaign success while controlling for one another.

Among the H1 proxy variables, "Perks" remained significantly negatively correlated at the 1% level. In contrast, "Title" and "Purple," which were significant in Table 8, lost their significance. This indicates that individual investors consistently avoid campaigns that emphasize benefits unrelated to the core of the campaign, such as the number of perks. This finding contradicts the lack of financial literacy hypothesis.

The H2 proxy variables showed results consistent with those in Table 9. Specifically, "Domestic campaigns" and "Co-investment" were significantly positively correlated with campaign success, while "Investment capital" and "Investment term" were significantly negatively correlated. These variables retained significance even after controlling for the peripheral signals in H1, thereby providing more robust support for H2.

Table 10. The result of logistic regression analysis (two hypotheses coexist)[1].

	Coef	std err	z-value	
Const	1.95	1.64	1.42	
Title	-0.01	0.03	0.03	
Perks	-0.68	0.16	19.07	***[2]
Purple	0.000	0.002	0.000	
Domestic campaign	1.05	0.61	2.92	*
Investment capital	-1.11	0.41	7.35	***
First-come, first-served	-0.29	0.65	0.20	
Investment term	-0.11	0.03	12.42	***
Bankers' track record	-0.52	0.38	1.91	
Co-investment	1.11	0.32	11.73	***
Collateral	-0.16	0.39	0.17	
Risk analysis	0.49	0.31	2.46	
Partnership with listed companies	0.18	0.32	0.34	
Female	0.58	0.81	0.52	
Interest rate	11.21	9.28	1.46	
Sector	Yes			
R2	0.1624			
AICc	548			
BIC	620			
N	451			

[1] The explanatory variable is a success dummy.
[2] ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

4.3. Additional analysis

The previous section demonstrated that peripheral factors unrelated to the substance of campaigns do not affect the success of LBCF in Japan, whereas certain essential signals sent by borrowers and platforms do influence outcomes. The robustness of those findings is examined in this section.

Table 11, Model 1 reports the results of a probit analysis with campaign success as the dependent variable and the H1 and H2 proxy variables from Table 10 as explanatory variables. The results show that "Perks," "Investment capital," and "Investment term" are significantly negatively correlated with success, while "Domestic campaign," "Co-

investment," and "Risk analysis" are significantly positively correlated. As in the previous analysis, these results reject the lack of financial literacy hypothesis.

Table 11, Model 2 presents the results of an OLS multiple regression with achievement rate as the dependent variable. Significant variables included "Domestic campaign" (positive), "First-come-first-served" (negative), "Investment term" (negative), "Co-investment" (positive), and "Female" (positive). While these results are broadly consistent with the earlier analysis, they are not completely aligned. We interpret this to mean that some campaigns stop accepting funds once the target amount is reached, so campaign success does not necessarily translate into a higher achievement rate. Importantly, none of the H1 proxy variables were significant. This suggests that individual investors are not influenced by peripheral signals but instead base their investment decisions on the substantive elements of the campaign. The results indicate that financial literacy is being effectively applied.

Table 11. The result of probit analysis and OLS (two hypotheses coexist) [1].

Model 1: Probit analysis Dependent variable: Success dummy				Model 2: OLS Dependent variable: Success rate (%)		
	Coef	std_err	z-value	Coef	std_err	t-value
Const	1.01	0.94	1.08	3.30	0.66	5.03***
Title	0.00	0.02	-0.01	-0.01	0.01	-0.60
Perks	-0.40	0.09	-4.51***	-0.06	0.06	-0.97
Purple	0.00	0.00	0.05	0.00	0.00	-0.31
Domestic campaign	0.67	0.36	1.84*	0.43	0.26	1.65*
Investment capital	-0.65	0.24	-2.76***	0.07	0.16	0.43
First-come, first-served	-0.15	0.37	-0.40	-2.81	0.23	-12.20***
Investment term	-0.07	0.02	-3.56***	-0.02	0.01	-1.65*
Bankers' track record	-0.31	0.22	-1.40	0.12	0.15	0.79
Co-investment	0.65	0.19	3.38***	0.24	0.13	1.81*
Collateral	-0.11	0.24	-0.44	-0.11	0.17	-0.63
Risk analysis	0.31	0.19	1.66*	0.10	0.13	0.73
Partnership with listed companies	0.14	0.19	0.71	0.13	0.14	0.95
Female	0.39	0.50	0.78	0.98	0.35	2.82***
Interest rate	6.80	5.42	1.26	3.54	3.87	0.92
Sector	Yes			Yes		
R2_U/Adj_R2	0.16			0.32		
AICc	549			1276		
BIC	621			1349		
N	451			451		

5. Conclusions

In this paper, the factors contributing to successful fundraising through LBCF in Japan are examined from the perspective of financial literacy. The analysis covers 465 campaigns launched between December 2020 and the end of September 2024 on Bankers, the largest platform in Japan.

There are two main findings. First, peripheral signals emitted by borrowers and platforms did not remain significant once diagnostic, campaign-related signals were taken into account. By contrast, variables such as "Perks" were negatively associated with campaign success (i.e., counterproductive). Hence, investors appear to prioritize diagnostic

over peripheral cues. Second, diagnostic signals are consistently significant for "Domestic campaign" (positive), "Co-investment" (positive), and "Investment term" (negative), while "Investment capital" is significant in the opposite (negative) direction to the original assumption. This suggests that rational assessments of liquidity, alignment of interests, and proximity (home bias) are at work, and that investors may also be cautious about the last-resort connotation of "funding" announcements. These results are robust in both the independent and combined models.

Both the probit analysis—using campaign success (1/0) as the dependent variable—and the OLS multiple regression—using achievement rate as the dependent variable—reconfirmed the significance of H2's diagnostic signals (Domestic, Co-investment, Investment term, etc.), while H1's peripheral proxies were generally insignificant. This reinforces the conclusion that investors are not swayed by peripheral signals but respond to diagnostic information.

In summary, the hypotheses tested in this study—H1: In LBCF campaigns, peripheral signals that should not be relied upon increase the probability of success; H2: In LBCF campaigns, diagnostic signals are not properly evaluated and therefore do not affect the probability of success—were both rejected. In the Japanese LBCF market, individual investors demonstrate financial literacy and place greater weight on diagnostic rather than peripheral signals.

Improving the financial literacy of individual investors is a global priority. This study shows that the analysis of crowdfunding can be used not only to identify success signals but also to assess investors' financial literacy. Nevertheless, the analysis is limited to a single platform and a defined period. Future research could offer more practical recommendations for investor education and disclosure design by (1) comparing multiple platforms, (2) conducting international comparisons, and (3) refining content analysis of text and images.

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References

1. Acharya, V.V.; Engle, R.; Jager, M.; Steffen, S. Why did bank stocks crash during COVID-19? The Review of Financial Studies 2024, 37, 2627-2684.
2. Anagnostopoulos, I. Fintech and regtech: Impact on regulators and banks. Journal of economics and business 2018, 100, 7-25.
3. Mwirigi, D.; Fekete-Farkas, M.; Lakner, Z. A bibliometric analysis of borrowers' behavior. Journal of Risk and Financial Management 2024, 17, 111.

4. Ali-Rind, A.; Boubaker, S.; Jarjir, S.L. Peer effects in financial economics: A literature survey. Research in International Business and Finance 2023, 64, 101873.
5. Rodríguez-Valencia, L.; Lamothe-Fernández, P.; Alaminos, D. The market value of SMEs: a comparative study between private and listed firms in alternative stock markets. Annals of Finance 2023, 19, 95-117.
6. Bruton, G.; Khavul, S.; Siegel, D.; Wright, M. New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer–to–peer innovations. 2015, 39, 9-26.
7. Fujii, M.; Hosomi, C.; Nose, Y. Equity crowdfunding and financial literacy of individual investors in Japan. Journal of Capital Markets Studies 2021, 5, 5-27.
8. Nose, Y.; Hosomi, C. What makes equity crowdfunding successful in Japan? Testing the signaling and lack of financial literacy hypotheses. Journal of Entrepreneurship, Management and Innovation 2023, 19, 146-183.
9. Spence, M. Job market signaling. In Uncertainty in economics; Elsevier: 1978; pp. 281-306.
10. Basha, S.A.; Elgammal, M.M.; Abuzayed, B.M. Online peer-to-peer lending: A review of the literature. Electronic Commerce Research and Applications 2021, 48, 101069.
11. Cai, S.; Lin, X.; Xu, D.; Fu, X. Judging online peer-to-peer lending behavior: A comparison of first-time and repeated borrowing requests. Information & Management 2016, 53, 857-867.
12. Herzenstein, M.; Andrews, R.L.; Dholakia, U.M.; Lyandres, E. The democratization of personal consumer loans? Determinants of success in online peer-to-peer loan auctions. Bulletin of the University of Delaware 2008, 15, 274-277.
13. Yao, J.; Chen, J.; Wei, J.; Chen, Y.; Yang, S. The relationship between soft information in loan titles and online peer-to-peer lending: evidence from RenRenDai platform. Electronic Commerce Research 2019, 19, 111-129.
14. Edward, M.Y.; Fuad, E.N.; Ismanto, H.; Atahau, A.D.R.; Robiyanto, R. Success factors for peer-to-peer lending for SMEs: evidence from Indonesia. Innovations 2023, 20, 16-25.
15. Kim, D.; Maeng, K.; Cho, Y. Study on the determinants of decision-making in peer-to-peer lending in South Korea. Asia-Pacific Journal of Accounting & Economics 2020, 27, 558-576.
16. Li, Y.; Li, C.; Gao, Y. Voluntary disclosures and peer-to-peer lending decisions: Evidence from the repeated game. Frontiers of Business Research in China 2020, 14, 7.
17. Moreno-Moreno, A.-M.; Sanchis-Pedregosa, C.; Berenguer, E. Success factors in peer-to-business (P2B) crowdlending: A predictive approach. IEEE Access 2019, 7, 148586-148593.
18. Barasinska, N.; Schäfer, D. Is crowdfunding different? Evidence on the relation between gender and funding success from a German peer-to-peer lending platform. German Economic Review 2014, 15, 436-452.
19. Greiner, M.E.; Wang, H. The role of social capital in people-to-people lending marketplaces. ICIS 2009 proceedings 2009, 29.
20. Pope, D.G.; Sydnor, J.R. What's in a Picture?: Evidence of Discrimination from Prosper. com. Journal of Human resources 2011, 46, 53-92.
21. Gafni, H.; Marom, D.; Robb, A.; Sade, O. Gender dynamics in crowdfunding (Kickstarter): Evidence on entrepreneurs, backers, and taste-based discrimination. Review of Finance 2021, 25, 235-274.
22. Tang, H. Peer-to-peer lenders versus banks: substitutes or complements? The Review of Financial Studies 2019, 32, 1900-1938.
23. Grant, A.; Deer, L. Consumer marketplace lending in Australia: Credit scores and loan funding success. Australian Journal of Management 2020, 45, 607-623.
24. Chen, Q.; Li, J.-W.; Liu, J.-G.; Han, J.-T.; Shi, Y.; Guo, X.-H. Borrower learning effects: do prior experiences promote continuous successes in peer-to-peer lending? Information Systems Frontiers 2021, 23, 963-986.
25. Mach, T.; Carter, C.; Slattery, C. Peer-to-peer lending to small businesses. 2014.

26. Alrasyid, H.; Rabbani, M.R.; Afifudin, A. Embracing the digital economy: Exploring the role of trust, perceived ease of use, and religiosity on intention to use Islamic peer-to-peer lending. JEMA: Jurnal Ilmiah Bidang Akuntansi dan Manajemen 2023, 20, 283-305.
27. Tao, Q.; Dong, Y.; Lin, Z. Who can get money? Evidence from the Chinese peer-to-peer lending platform. Information Systems Frontiers 2017, 19, 425-441.
28. Freedman, S.; Jin, G.Z. The information value of online social networks: Lessons from peer-to-peer lending. International Journal of Industrial Organization 2017, 51, 185-222.
29. Emekter, R.; Tu, Y.; Jirasakuldech, B.; Lu, M. Evaluating credit risk and loan performance in online Peer-to-Peer (P2P) lending. Applied Economics 2015, 47, 54-70.
30. Kuwabara, K.; Thébaud, S. When beauty doesn't pay: Gender and beauty biases in a peer-to-peer loan market. Social Forces 2017, 95, 1371-1398.
31. Chen, D.; Li, X.; Lai, F. Gender discrimination in online peer-to-peer credit lending: evidence from a lending platform in China. Electronic Commerce Research 2017, 17, 553-583.
32. Duarte, J.; Siegel, S.; Young, L. Trust and credit: The role of appearance in peer-to-peer lending. The Review of Financial Studies 2012, 25, 2455-2484.
33. Chen, S.; Gu, Y.; Liu, Q.; Tse, Y. How do lenders evaluate borrowers in peer-to-peer lending in China? International Review of Economics & Finance 2020, 69, 651-662.
34. Ramdhan, N.A.; Bujang, I.; Muhamat, A.A.; Hendrawaty, E.; Hoong, T.B. P2P lending approval and sectors segmentation: Investigating the Malaysia key factors. Journal of Emerging Economies and Islamic Research 2024, 12, 576, doi:10.24191/jeeir.v12i1.576.
35. Foo, J.; Lim, L.-H.; Wong, K.S.-W. Macroeconomics and FinTech: Uncovering latent macroeconomic effects on peer-to-peer lending. arXiv preprint arXiv:1710.11283 2017.
36. Meoli, M.; Rossi, A.; Vismara, S. Financial literacy and security-based crowdfunding. Corporate Governance: An International Review 2022, 30, 27-54.
37. Arifah, J.N.; Dalimunthe, Z. The impact of financial literacy on the investment decision of non-donation-based crowdfunding in Indonesia. International Journal of Business and Society 2020, 21, 1045-1057.
38. Khan, S.; Singh, R.; Laskar, H.; Choudhury, M. Exploring the role of digital financial literacy in the adoption of Peer-to-Peer lending platforms. Investment Management & Financial Innovations 2025, 22, 369.
39. Dorfleitner, G.; Priberny, C.; Schuster, S.; Stoiber, J.; Weber, M.; de Castro, I.; Kammler, J. Description-text related soft information in peer-to-peer lending–Evidence from two leading European platforms. Journal of Banking & Finance 2016, 64, 169-187.
40. Kgoroeadira, R.; Burke, A.; Di Pietro, F.; van Stel, A. Determinants of firms' default on unsecured loans in the P2P crowdfunding market. Journal of International Financial Markets, Institutions and Money 2023, 89, 101882.
41. Vásquez-Ordóñez, L.R.; Lassala, C.; Ulrich, K.; Ribeiro-Navarrete, S. Efficiency factors in the financing of renewable energy projects through crowdlending. Journal of Business Research 2023, 155, 113389.
42. Chen, X.; Huang, B.; Ye, D. The role of punctuation in P2P lending: Evidence from China. Economic Modelling 2018, 68, 634-643.
43. Wang, S.; Ye, D.; Liao, J. Politeness matters: The role of polite languages in online peer-to-peer lending. Journal of Business Research 2024, 171, 114394.
44. Lusardi, A.; Mitchell, O.S.; Curto, V. Financial literacy among the young. Journal of consumer affairs 2010, 44, 358-380.
45. Elsinger, H.; Fessler, P.; Feyrer, J.; Richter, K.; Silgoner, M.A.; Timel, A. Digitalization in financial services and household finance: fintech, financial literacy and financial stability. Financial Stability Report 2018, 50-58.
46. Oh, E.Y.; Rosenkranz, P. Determinants of peer-to-peer lending expansion: The roles of financial development and financial literacy. The Journal of FinTech 2022, 2, 2250001.

47. Fernandes, D.; Lynch Jr, J.G.; Netemeyer, R.G. Financial literacy, financial education, and downstream financial behaviors. Management science 2014, 60, 1861-1883.
48. Drexler, A.; Fischer, G.; Schoar, A. Keeping it simple: Financial literacy and rules of thumb. American Economic Journal: Applied Economics 2014, 6, 1-31.
49. Badrova, A.; Ņečiporuka, M.; Lublóy, Á. Success factors of real estate crowdfunding projects: Evidence from Spain. Society and Economy 2024, 46, 194-217.
50. Chen, X.; Huang, B.; Ye, D. Gender gap in peer-to-peer lending: Evidence from China. Journal of Banking & Finance 2020, 112, 105633.