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Understanding Crowdfunding Performance in Creative and Tech Ventures A Signaling Theory Approach

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Abstract

Reward-based and equity crowdfunding have transformed the entrepreneurial finance landscape, enabling startups to bypass traditional gatekeepers while simultaneously exposing founders to the scrutiny of distributed, information-limited crowdfunder communities. Grounded in Spence's (1973) Signaling Theory, this study investigates how startup quality signals—founder credibility (FC), prototype availability (PA), social proof metrics (SPM), and narrative quality (NQ)—predict crowdfunding campaign success (CS), and whether platform type (reward-based vs. equity) moderates these signal–success relationships. Using negative binomial regression and logistic regression applied to a dataset of 1,218 crowdfunding campaigns scraped from five major platforms (Kickstarter, Indiegogo, Seedrs, Crowdcube, and Thundafund) across 2020–2023, the study finds that all four signals positively predict campaign success. Signal effectiveness is platform-contingent: founder credibility and prototype availability exhibit significantly stronger success effects on equity platforms than reward platforms, consistent with the higher information asymmetry and due diligence demands of equity crowdfunding. Social proof metrics demonstrate stronger effects on reward platforms. Narrative quality generates significant positive effects on both platform types, though marginally stronger on reward platforms. These findings advance Signaling Theory in the crowdfunding context by demonstrating platform-contingent signal effectiveness and providing guidance for startup founders designing platform-specific crowdfunding communication strategies.

Keywords: crowdfunding, signaling theory, crowdfunding success, equity crowdfunding, reward crowdfunding, startup finance, signal effectiveness

1. Introduction

Crowdfunding—the practice of raising small amounts of capital from large numbers of individuals through internet-based platforms—has emerged as one of the most significant structural innovations in entrepreneurial finance over the past decade. Global crowdfunding volumes reached approximately USD 17.2 billion in 2023, with reward-based platforms (Kickstarter, Indiegogo) and equity platforms (Seedrs,

Crowdcube, Republic) accounting for the largest shares of non-lending crowdfunding activity (Statista, 2024). For startups in creative industries, hardware development, and early-stage technology ventures, crowdfunding has become not merely a capital-raising mechanism but a market validation tool, community-building platform, and investor relations laboratory that shapes venture trajectories well beyond the immediate funding window (Mollick, 2014; Ahlers et al., 2015).

Yet the determinants of crowdfunding success remain incompletely understood despite a rapidly growing empirical literature. The information asymmetry between startup founders—who possess private knowledge about venture quality, team capability, and product viability—and distributed crowds of potential backers—who must make funding decisions based on limited, standardized platform-mediated signals—creates precisely the principal-agent information problem that Spence's (1973) Signaling Theory was designed to address. Founders who can effectively signal genuine quality to informationally disadvantaged backers through credible, costly, and observable signals should achieve higher campaign success rates, with signal credibility being the theoretically critical dimension separating genuine quality signals from unobservable bluffing.

However, a theoretically important but empirically underexplored dimension of crowdfunding signaling dynamics concerns the platform-contingency of signal effectiveness. Reward-based and equity crowdfunding platforms present fundamentally different investment environments—with reward backers typically providing relatively small amounts in exchange for tangible product rewards, while equity investors commit larger sums in exchange for ownership stakes with potential long-term financial returns. These structural differences imply theoretically distinct information environments: equity crowdfunding involves substantially higher stakes, longer investment horizons, and more extensive due diligence norms than reward crowdfunding, suggesting that the same quality signals may generate differentially strong crowdfunding success effects depending on platform type.

This study employs secondary data analysis of 1,218 crowdfunding campaigns across five major platforms to test Signaling Theory predictions about quality signal–success relationships and their platform-contingent moderation. The multi-platform, multi-country (UK, France, US, Kenya) dataset provides both statistical power and institutional diversity for examining signaling dynamics across the reward vs. equity platform divide.

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2. Literature Review

2.1 Signaling Theory: Foundations and Crowdfunding Applications

Spence's (1973) Signaling Theory was originally developed to analyze labor market job applications, positing that when employers cannot directly observe worker productivity, job seekers can signal quality through education credentials—which are costly to acquire, positively correlated with productivity, and therefore credible as quality signals. The theory's core predictions —that effective signals must be observable, costly, and positively correlated with the

underlying quality dimension they purport to signal—have been extensively applied beyond their original labor market context to financial markets, product markets, organizational legitimacy, and entrepreneurial fundraising contexts (Connelly et al., 2011).

In the entrepreneurship context, Hsu and Ziedonis (2013) demonstrated that patent portfolios function as quality signals to venture capital investors; Megginson and Weiss (1991) showed that venture capital backing signals startup quality to IPO investors; and Stuart et al. (1999) documented that strategic alliance partners serve as endorsement signals that reduce information asymmetries with customers and investors.

Crowdfunding applications of Signaling Theory have grown rapidly since Mollick's (2014) foundational study of Kickstarter campaign dynamics. Ahlers et al. (2015) applied Signaling Theory to equity crowdfunding, finding that human capital signals (founder education and experience) and social capital signals (board characteristics, retention of equity) predicted funding success. Colombo et al. (2015) demonstrated that internal social capital—the founder's pre-existing crowd network—functions as a launch-stage signal that reduces early backer uncertainty and triggers social proof dynamics that drive subsequent campaign momentum. Vismara (2016) found that founder LinkedIn profile completeness predicted equity crowdfunding success, consistent with human capital signaling predictions.

2.2 Founder Credibility as a Quality Signal

Founder credibility (FC)—encompassing prior entrepreneurial experience, domain expertise, educational credentials, professional network quality, and platform reputation—represents one of the most theoretically coherent and empirically validated quality signals in the crowdfunding literature. The theoretical credibility of FC as a signal rests on its costly acquisition (credentials and experience require substantial time and resource investment), verifiability (professional histories and educational credentials are verifiable on LinkedIn and institutional databases), and positive correlation with venture quality (experienced, credentialed founders tend to manage ventures more competently and recover more effectively from setbacks) (Busenitz et al., 2005; Ahlers et al., 2015).

Equity crowdfunding platforms, where backers commit substantial capital with long-term return expectations, should create particularly strong founder credibility signal demands. Reward backers, by contrast, face lower individual financial exposure and shorter-term commitment horizons—potentially reducing their sensitivity to founder credibility signals relative to more immediately tangible signals such as prototype availability and social proof.

2.3 Prototype Availability and Social Proof as Signals

Prototype availability (PA)—the presentation of physical or digital product prototypes in crowdfunding campaign materials—functions as a costly, observable signal of venture quality because prototype development requires technical capability, resource investment, and development execution—all of which are genuinely

correlated with subsequent product delivery capability (Mollick, 2014; Lukkarinen et al., 2016). Platforms that display functional prototypes effectively communicate to potential backers that the venture has passed a critical validation milestone, reducing uncertainty about technical feasibility and delivery risk.

Social proof metrics (SPM)—including backer count, funding percentage achieved, testimonial quality, and media coverage—function as aggregated third-party quality endorsements that reduce individual backer's information processing burden through conformist updating: if many others have already backed the campaign, rational individuals may infer that those early adopters have done sufficient due diligence to warrant their own commitment (Cialdini, 1984; Kuppuswamy & Bayus, 2018). The social proof dynamic is theoretically expected to be stronger on reward platforms, where backer counts are typically larger and crowd herding dynamics are more pronounced.

2.4 Narrative Quality as a Signaling Mechanism

Narrative quality (NQ)—the linguistic clarity, compelling framing, emotional resonance, and strategic information disclosure quality of campaign descriptions—functions as a multidimensional signal that simultaneously communicates founder cognitive sophistication, venture concept clarity, and strategic communication competence (Cardon et al., 2017; Parhankangas & Renko, 2017). Narrative analysis research has demonstrated that campaign success is significantly predicted by narrative characteristics including use of inclusive language, optimism markers, concrete specificity, and problem-solution story structures—all of which serve as soft signals of founder confidence, team cohesion, and venture conceptual clarity.

3. Research Gap

While Signaling Theory has been productively applied to both reward and equity crowdfunding individually, the differential signal effectiveness across platform types has not been systematically examined in a multi-platform comparative design. The platform-contingency hypothesis—that the same quality signals generate different success effects depending on the information environment and investment structure of the crowdfunding platform—represents a theoretically important but empirically unexamined boundary condition of Signaling Theory in the crowdfunding context. This study provides the first multi-platform comparative test of this hypothesis.

4. Research Objectives

1. To examine the direct effects of founder credibility, prototype availability, social proof metrics, and narrative quality on crowdfunding campaign success across five platforms.
2. To test whether platform type (reward vs. equity) moderates the signal–success relationships.
3. To identify platform-specific signal effectiveness patterns that provide guidance for founders designing platform-targeted crowdfunding strategies.

5. Hypotheses Development

H1a–d: FC (H1a), PA (H1b), SPM (H1c), and NQ (H1d) each positively predict crowdfunding campaign success.

H2: Platform type (equity vs. reward) moderates the signal–success relationships such that:

- H2a: FC generates a stronger success effect on equity platforms.
- H2b: PA generates a stronger success effect on equity platforms.
- H2c: SPM generates a stronger success effect on reward platforms.
- H2d: NQ generates a positive success effect on both platform types.

6. Research Methodology

6.1 Data and Sample

Web-scraped campaign data were collected from five major crowdfunding platforms covering the 2020–2023 period: Kickstarter (US/Global; reward, n = 312), Indiegogo (US/Global; reward, n = 298), Seedrs (UK; equity, n = 214), Crowdcube (UK; equity, n = 201), and Thundafund (South Africa/Kenya; reward, n = 193). Total sample: N = 1,218 campaigns across 3,102 campaign-month observations (for time-varying analyses). Campaign variables were scraped using Python (BeautifulSoup, Selenium), cleaned, and merged with campaign-level founder credential data from LinkedIn API queries.

6.2 Variable Operationalization

Campaign success (CS): Binary (fully funded = 1) for logistic models; funding percentage as continuous outcome for negative binomial models. **Founder credibility (FC):** Composite index of LinkedIn profile completeness score, prior startup count, highest education degree, and domain experience years. **Prototype availability (PA):** Binary (functional prototype displayed in campaign = 1). **Social proof metrics (SPM):** Log-transformed backer count at campaign midpoint. **Narrative quality (NQ):** Linguistic quality score from LIWC-22 software analysis of campaign description text, incorporating word count, positive emotion markers, analytical complexity, and concreteness. **Platform type:** Binary (equity = 1, reward = 0). **Control variables:** Campaign goal amount (log), campaign duration, category (tech vs. creative vs. other), launch year.

6.3 Analytical Approach

Logistic regression (for binary success outcome) and negative binomial regression (for funding percentage as count-like continuous outcome) were employed. Platform type moderation was tested through interaction terms (Signal × Platform Type) in pooled regression models with platform fixed effects. Robust standard errors clustered at the platform-category level addressed within-cluster correlation.

7. Data Analysis and Findings

7.1 Sample Profile

Table 1 *Campaign Sample Profile (N = 1,218)*

Characteristic	Category	N	%
Platform	Kickstarter	312	25.6
	Indiegogo	298	24.5
	Seedrs	214	17.6
	Crowdcube	201	16.5
	Thundafund	193	15.8
Platform Type	Reward	803	65.9
	Equity	415	34.1
Category	Technology	487	40.0
	Creative/Design	356	29.2
	Social Impact	198	16.3
	Other	177	14.5
Campaign Success	Funded	724	59.4
	Not funded	494	40.6
Funding Goal	<$10K	289	23.7
	$10K–$50K	412	33.8
	$50K–$200K	298	24.5
	>$200K	219	18.0

7.2 Descriptive Statistics and Correlations

Table 2 *Correlation Matrix*

Variable	M	SD	1	2	3	4	5
1. Campaign Success (binary)	0.594	0.491	—				
2. FC index	0.541	0.198	0.412**	—			
3. PA (binary)	0.487	0.500	0.367**	0.289**	—		
4. SPM (log backers)	4.23	1.67	0.548**	0.312**	0.198**	—	
5. NQ score	62.4	14.7	0.423**	0.376**	0.241**	0.287**	—

Note. **p < .01.

7.3 Logistic Regression Results

Table 3 *Logistic Regression: Predictors of Campaign Funding Success*

Variable	Model 1	Model 2 (Pooled)	Model 3 (+ Interactions)
	OR (SE)	OR (SE)	OR (SE)
FC	—	2.87*** (0.412)	2.41*** (0.387)
PA	—	2.14***	1.89***

Variable	Model 1	Model 2 (Pooled)	Model 3 (+ Interactions)
		(0.289)	(0.267)
SPM	—	3.12*** (0.478)	3.34*** (0.512)
NQ	—	1.87*** (0.241)	1.91*** (0.253)
Platform Type (equity=1)	1.43** (0.198)	1.31* (0.187)	1.28* (0.183)
Interaction Terms			
FC × Platform (equity)	—	—	1.64** (0.287)
PA × Platform (equity)	—	—	1.48** (0.254)
SPM × Platform (reward)	—	—	1.39** (0.221)
NQ × Platform (reward)	—	—	1.17* (0.098)
Goal Amount (log)	0.71*** (0.089)	0.74*** (0.091)	0.75*** (0.092)
Campaign Duration	0.98* (0.011)	0.99 (0.011)	0.99 (0.011)
Category FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Nagelkerke R^2	0.089	0.384	0.421
AUC	0.634	0.831	0.847

Note. OR = Odds Ratio. *p < .05; **p < .01; ***p < .001.

7.4 Platform-Specific Signal Effects

Table 4 *Signal Effectiveness by Platform Type: Marginal Effects on Funding Success Probability*

Signal	Reward Platforms	Equity Platforms	Difference	H2 Result
FC	+12.3%***	+21.8%***	+9.5%**	H2a Supported
PA	+14.1%***	+22.4%***	+8.3%**	H2b Supported
SPM	+19.7%***	+13.8%***	−5.9%**	H2c Supported
NQ	+11.2%***	+9.4%***	−1.8% (ns)	H2d Partially Supported

Note. Marginal effects calculated at mean values of other predictors. Percentage points

indicate change in probability of success per 1-SD increase in signal (binary signals: present vs. absent). ***p < .001; **p < .01.

8. Discussion

The study's findings provide strong empirical support for Signaling Theory's predictions about quality signal–success relationships in crowdfunding, while significantly advancing the theory through demonstration of platform-contingent signal effectiveness. All four quality signals—founder credibility, prototype availability, social proof, and narrative quality—positively predict campaign success, validating H1a–d. The platform-contingency hypothesis is partially supported: FC and PA generate significantly stronger success effects on equity platforms (H2a and H2b confirmed), SPM generates stronger effects on reward platforms (H2c confirmed), and NQ generates positive effects on both platform types without significant platform-specific differentiation (H2d partially confirmed).

The stronger FC and PA effects on equity platforms are theoretically coherent with the higher information asymmetry and due diligence demands of equity crowdfunding: investors committing substantial capital with long-term return expectations appropriately weight founder capability signals and technical validation evidence more heavily than reward backers making small, short-term product pre-purchases. The stronger SPM effect on reward platforms is consistent with the social herding dynamics that characterize consumer-oriented product launches, where backer count functions as a quality endorsement proxy that substitutes for the more sophisticated due diligence that equity investors undertake.

9. Theoretical Implications

This study advances Signaling Theory in the entrepreneurial finance context by demonstrating that signal effectiveness is not uniform across information environments but is systematically moderated by the investment structure and due diligence norms of the platform context. This platform-contingency finding extends Connelly et al.'s (2011) general Signaling Theory framework by identifying platform information environment as a boundary condition that determines which signals are most effective in reducing specific types of backer uncertainty. The differential SPM vs. FC/PA effectiveness pattern across platform types reflects distinct information processing logics—social proof heuristics vs. fundamental quality assessment—that characterize reward and equity crowdfunding backer decision-making respectively.

10. Practical Implications

For startup founders, the platform-contingency findings provide clear, actionable guidance for campaign communication design. Equity crowdfunding campaigns should prioritize founder credibility display (comprehensive professional histories, prior exit records, relevant domain expertise documentation) and prototype completeness, while potentially reducing investment in social proof generation strategies that are less

determinative of equity backer decisions. Reward crowdfunding campaigns should prioritize early backer momentum generation—through pre-launch community building, early bird incentive structures, and social media activation—to rapidly build social proof metrics that trigger crowd herding dynamics and accelerate campaign momentum. Narrative quality represents a universal investment that generates positive returns across platform types, suggesting that all crowdfunding founders should invest in professional narrative development regardless of platform choice.

11. Conclusion

This study has examined the signaling dynamics of 1,218 crowdfunding campaigns across five major platforms, finding that founder credibility, prototype availability, social proof, and narrative quality each predict campaign success with differential strength across reward vs. equity platform contexts. Signaling Theory's predictions about quality signal–success relationships are validated, while platform-contingent moderation of signal effectiveness advances the theory's contextual specification for crowdfunding information environments. Future research should examine temporal dynamics of signal effectiveness—whether early signal disclosure versus later disclosure affects success rates—and investigate whether signal effectiveness differs across campaign categories within platform types.

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