The Influence of Campaign Presentation Cues on Crowdfunding Performance – Reviewing the Empirical Reward-Based Crowdfunding Literature

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University of Bamberg, Germany, maximilian.raab@uni-bamberg.de

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The Influence of Campaign Presentation Cues on Crowdfunding Performance – Reviewing the Empirical Reward-Based Crowdfunding Literature

Maximilian Raab
University of Bamberg, Germany, maximilian.raab@uni-bamberg.de

Abstract

Background: Reward-based crowdfunding (RBCF) is an established funding mechanism for entrepreneurs, in which they present their ideas through campaign presentations to persuade backers. Compared to investors, who focus more on the merits of the information presented, crowdfunding backers pay attention to cues such as the entrepreneurs’ characteristics and the appeal of the campaign. Accordingly, researchers investigated cues, i.e., snippets of information embedded within different communication modalities that facilitate the interpretation of the campaign and entrepreneur. Thus, knowledge of how cues affect decision-making and funding performance has become important for researchers and practitioners. However, current research often investigated cues in isolation that are fragmented across literature and does not provide a straightforward understanding of how cues embedded in campaign presentations affect funding performance.

Method: This review synthesizes past RBCF literature to provide a comprehensive concept-centric categorization of how cues affect funding performance.

Results: The review analyzed 71 articles and identified three main research topics, namely “communication strategies”, “perceived entrepreneurs’ characteristics”, and “appeal to emotions”. The review developed 14 corresponding concept-centric sub-categories of cues and reported their effects on funding performance (significant negative, non-significant, significant positive, inverted U-shaped). Vote-counting shows that some sub-categories tend to have overall positive or negative effects, with first indications of an often-neglected inverted U-shape effect. Yet, the effect’s direction is not straightforward for all sub-categories. Also, further research is necessary to explore what specific combinations of cues moderate, complement, or substitute for each other’s effects, including non-linear assumptions. Also, there is room to investigate fruitful, not yet analyzed, cues and theoretical lenses.

Conclusion: This review contributes to the RBCF literature by providing detailed insights into the effects of cues embedded within the campaign presentation on funding performance. Such a better understanding can benefit all involved parties.

Keywords: Reward-Based Crowdfunding, Funding Performance, Verbal Cues, Nonverbal Cues, Literature Review.
Introduction

Crowdfunding has emerged as a viable alternative to traditional sources of financial capital, such as banks and venture capital firms, that leverages the Internet to raise funds from a large number of backers who typically invest small amounts in innovative new ideas (Mollick, 2014). In such a multi-sided market, crowdfunding platforms are intermediaries between backers who provide funding and entrepreneurs who seek funding. To reach the pledge goal, entrepreneurs provide information, i.e., their business ideas, through a campaign presentation, the central IT artifact that serves as an important channel to enable communication between backers and entrepreneurs (Beaulieu et al., 2015; Lipusch et al., 2020). The presentation commonly consists of a written narrative, pictures, and is accompanied by a pitch video. These verbal and nonverbal communication modalities display entrepreneur-provided campaign information, which backers consider when evaluating campaigns for their funding decisions (Courtney et al., 2016; Zhou et al., 2016). Thus, the campaign presentation plays a critical role in conveying information that influences decision-making (Gafni et al., 2019; Lin & Boh, 2021).

Compared to professional investors, e.g., VCs and angel investors, who rely on business plans, financial reports, and, in part, subjective impressions of the entrepreneurs when making investment decisions (Frese & Gielnik, 2014), crowdfunding backers need to substitute for those missing resources and personal access to entrepreneurs. Also, they typically lack the expertise and experience to undertake serious due diligence (Li et al., 2017). Since the campaign presentation displays mostly entrepreneur-provided campaign information, backers possess imperfect information (Calic & Shevchenko, 2020). Accordingly, funding decisions are subject to uncertainty, in which the decision-making depends on the observable cues entrepreneurs provide intentionally or unconsciously (Moradi & Badrinarayanan, 2021). Signaling theory (Connelly et al., 2011; Spence, 2002) suggests that the perception of observable verbal and nonverbal cues reduces information asymmetries by signaling supplementary information and serving recipients as proxies for unobservable qualities (e.g., Dang-Pham et al., 2021). Also, when limited information is available, individuals' decision-making is largely determined by the verbal and nonverbal cues received from the sender (Connelly et al., 2011; Spence, 2002). Given the peculiar nature of the communication between backers and entrepreneurs, primarily via the campaign presentation, and the reliance on unverified entrepreneur-provided information, backers support their funding decisions by using verbal and nonverbal cues. Those cues, embedded in the campaign's communication modalities, serve backers as proxies to obtain additional insights about the quality and general merit of the campaign, including from the entrepreneur (e.g., Lin & Boh, 2021). For example, with the perception of written first-person pronouns, backers could obtain insights into the entrepreneur's personality, such as narcissism. Such displays of cues can influence the backer's decision-making (Frese & Gielnik, 2014). Also, backers are more likely to support a campaign if certain cues are present in the campaign presentation that improve their knowledge about the campaign or serve as indications for less-visible attributes of an entrepreneur, such as passion (e.g., Franzoni & Tenca, 2022; Hoegen et al., 2017). In this regard, verbal cues refer to the use of written or spoken words, and nonverbal cues refer to communication that occurs through means other than words, e.g., facial expressions. Viewed through the lens of signaling theory (Spence, 2002), cues reflect certain snippets of information embedded within a communication modality that signal additional information about the campaign and the entrepreneur and support backers' learning about a specific context, enabling them to make better-informed decisions.

With increased research interest surrounding the impact of cues on decision-making, particularly in information systems and entrepreneurship, researchers investigated which verbal and nonverbal cues backers pay attention to when evaluating campaigns. They cover how backers base their decisions on subjective impressions of the perceived entrepreneur's characteristics, communication strategies, or presentation appeals (e.g., Costello & Lee, 2022; Li et al., 2021). While it is crucial to understand the impact of individual cues, these articles...
primarily focus on a single set of cues analyzed within one modality. If those articles provided a literature review as their theoretical foundation, they reviewed only articles related to their focal research objective. Furthermore, systematic literature reviews on funding performance influencing factors have delivered holistic views and developed frameworks that incorporate a variety of themes, for example, the use of communication modalities, team and project characteristics, social influence, environmental readiness, platform context, or backers' motives (e.g., Alhammad et al., 2022; Hoegen et al., 2017). However, those reviews neither provided a comprehensive analysis of the various cues embedded in verbal and nonverbal modalities nor the reported effects. Also, comprehending the impact of cues on funding performance is challenging. Different variables have been developed to measure the same concept. For example, 'perceived narcissism' is conceptualized with different measurements as the 'number of self-mentions counting any mentions of the entrepreneur's name' (Gafni et al., 2019), 'I-pronouns-ratio' (Bollaert et al., 2019), and 'narcissistic rhetoric using the narcissistic personality inventory' (Anglin, Wolfe et al., 2018). Also, different effects regarding funding performance have been reported between such conceptually similar cues. For example, the latter-mentioned articles reported positive, negative, and inverted U-shaped effects, which makes an association regarding such a cue's prevalent effect challenging. Also, there is no indication as to which conceptually similar cues have been analyzed within different modalities. Since there is variability in how entrepreneurs can embed different cues in their campaign presentation, knowledge of what cues affect funding performance is of particular interest (Courtney et al., 2016). That said, current RBCF literature does not provide a systematic analysis and conceptualization of the verbal and nonverbal cues embedded in various communication modalities. Therefore, synthesizing and discussing the fragmented and inconsistent findings assists research to understand and assess the cue's prevalent effect on funding performance. Accordingly, we address the following research questions:

1. What cues have been examined in the reward-based crowdfunding literature?
2. What effects exist between the examined cues and funding performance?

To answer these research questions, we synthesized past RBCF literature using a concept-centric approach to group similar cues under a generalized concept, following the recommendations of Webster and Watson (2002). Our methodology involved vote-counting to synthesize the effects of each derived concept, such as 'perceived narcissism', on funding performance, accounting for negative, non-significant, positive, and more recently considered inverted U-shaped effects (Light & Smith, 1971). By summarizing the effects and discussing the patterns identified, we can develop associations between conceptually similar cues embedded in campaign presentations and their prevalent impact on funding performance. Our research builds upon previous literature reviews that have derived crowdfunding performance factors such as the use of communication modalities and reported initial findings regarding the entrepreneur's perception (e.g., Alhammad et al., 2022; Hoegen et al., 2017). Our study adds to this initial knowledge base with a comprehensive analysis and discussion of cues and their effects on funding performance. Also, this literature review identifies potential research gaps and contributes to the literature by highlighting the need to: (1) Examine cues that have been investigated in only a few articles or reported mixed effects, as the prevailing direction of their effects is difficult to assess. (2) Account not only for the cue's linear but also non-linear effects. (3) Investigate what specific combinations of cues moderate, complement, or substitute for each other's effects. (4) Explore cues that have not yet been analyzed. (5) Analyze cues embedded in pictures, speech, and videos, as such research is still in its early stages.

We proceed as follows: Section 2 explains the concept of RBCF and the influence of cues on funding performance. Section 3 describes our research methodology. Section 4 presents the conceptualization of cues and their effects on funding performance. Section 5 discusses the implications and limitations, and in section 6, we conclude.
Cues in Reward-Based Crowdfunding

Regarding RBCF, backers are not investing to help start or grow a business by loaning money that will be repaid with interest or receiving royalties (e.g., Perdana et al., 2021). Rather, backers are investing to support a specific campaign and receiving non-monetary rewards in return. Entrepreneurs seeking funding create a campaign presentation on a RBCF platform, using various communication modalities to communicate their idea and setting a pledge goal (Beaulieu et al., 2015). The objective of the entrepreneur’s campaign presentation is to communicate the idea and maximize funding performance, i.e., convincing many potential backers and increasing the funding amount to reach the pledge goal (Mollick, 2014).

RBCF presents a communication challenge for both backers and entrepreneurs. Backers must examine the campaign presentation to obtain information about an unfamiliar campaign and entrepreneur. This information is provided by the entrepreneur in a written description accompanied by pictures, typically including a video with a voice-over and sound. Thus, the presentation utilizes various modalities that display information and cues to communicate the campaign’s idea. Yet, information asymmetry is a critical concern in favor of the entrepreneur, as backers have to trust the provided information when making funding decisions (Courtney et al., 2016; Hoegen et al., 2017). Moreover, backers typically lack expertise in venture evaluation and have less experience undertaking serious due diligence, unlike professional investors, who can focus more on important elements of the presented information (Li et al., 2017). Furthermore, promised rewards often cannot be experienced, and entrepreneurs have little to offer in terms of tangible evidence. Although entrepreneurs provide information, most of it is unverified, and backers can rarely validate the statements and promises made. Overall, backers lack complete information, hard facts, and personal access to entrepreneurs (Beaulieu et al., 2015; Hoegen et al., 2017).

Thus, backers (sub)consciously pay attention to various (often subtle) verbal and nonverbal cues present in the campaign presentation when making funding decisions (e.g., Lin & Boh, 2021). These cues, displayed through different presentation modalities, provide additional information about the campaign and support the backer’s learning about a specific context, enabling them to make better-informed decisions. Accordingly, research reported that cues related to the entrepreneur’s characteristics, communication strategies, and the presentation’s appeal can shape the backer’s impressions of the campaign and entrepreneur, i.e., can have a significant impact on funding decisions (e.g., Costello & Lee, 2022; Li et al., 2021). For example, using moderate levels of ‘narcissistic rhetoric’ can influence funding decisions by making entrepreneurs appear charismatic and confident. Such perceived qualities help entrepreneurs persuade backers (Anglin, Wolfe et al., 2018). Also, the explicit use of sustainability-related words makes the campaign more appealing to backers who identify with the framing (Defazio et al., 2021). Arousing a positive emotional state by embedding positive facial expressions or words can also evoke positive affective reactions that trigger a more favorable perception of the campaign and generous decision-making (Jiang, Yin et al., 2020; Koch & Siering, 2019).

In conclusion, entrepreneurs display verbal and nonverbal cues in their campaign presentations, either intentionally or unconsciously (Mollick, 2014; Spence, 2002). Either way, these cues provide additional information for backers and can (sub)consciously influence their perception of the campaign (Anglin, Short et al., 2018; Spence, 2002). As backers have limited information on which to base their funding decisions, the displayed cues are proxies that support the backers’ decision-making. Providing a systematic analysis and conceptualization of the verbal and nonverbal cues embedded in various communication modalities assists research to understand and assess the cue’s prevalent effect on funding performance.
Research Methodology

To address the proposed research questions, we conducted a literature review following the recommendations of Webster and Watson (2002). We synthesized the existing RBCF literature on how different verbal and nonverbal cues embedded in various modalities of the campaign presentation affect funding performance. This approach consists of two steps: first, identifying the relevant literature, and second, structuring the review.

Identifying the Relevant Literature

To identify the relevant literature that analyzed cues embedded in RBCF campaign presentations, we queried digital libraries, including ACM Digital Library, AIS Electronic Library, EBSCOHost, IEEE Xplore, SAGE Journals, ScienceDirect, SpringerLink, and Web of Science, with the following search phrases: ["reward-based crowdfunding" OR "reward based crowdfunding"] AND ["cue*" OR "content" OR "signal*" OR "appeal*"]. While “cue*” reflects the central aspect of our research topic, cues also form the “content” of the campaign presentation. Moreover, cues disclose “signals”, serving backers as proxies for unobservable qualities. Additionally, cues reflect specific presentation “appeals” that attract certain backers. We applied a full-text search and did not limit our review to specific publication outlets or years (Webster & Watson, 2002). The total set of articles includes results until October 2022. This covered a wide range of publications, including leading information systems, economics, and entrepreneurship journals.

This approach identified 1821 articles. After removing duplicates, we analyzed 1611 articles through a screening process. First, articles that are not written in English and do not analyze RBCF platforms or cues embedded within the campaign presentation are excluded (n=1509) based on the title, abstract, and keywords. Those articles out of scope investigated, for example, other non-RBCF platforms, initial coin offerings, crowdfunding ecosystems, platform dynamics, or crowdsourcing. Second, we read the full text of the remaining 102 articles and applied inclusion and exclusion criteria. To be included, articles had to analyze verbal or nonverbal cues that signal additional information, appeals, or messages and, therefore, support the backer’s learning about the campaign or entrepreneur. Also, cues must be embedded in the campaign presentation (i.e., textual description, pictures, videos, speech, including articles that do not differentiate between modalities) and hypothesized to have an effect on funding performance. Furthermore, articles had to report empirical evidence about the cue’s effect and direction based on regression results. Articles that only reported results about improved prediction accuracy were excluded. After the screening, 61 articles remained for analysis. Based on Webster and Watson (2002), we conducted backward and forward searches on these articles and identified ten additional articles. That resulted in a total of 71 articles.
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Structuring the Review

To synthesize the RBCF literature on how conceptually similar cues affect funding performance, we used a concept-centric approach, following the recommendations of Webster and Watson (2002). In this approach, concepts serve as the organizing framework for the literature review. Thus, we grouped conceptually similar cues under one coherent research theme to identify patterns in the current literature and to accumulate knowledge on their impact on funding performance. To do this, we developed sub-categories by systematically examining the cues analyzed in the 71 articles in a multi-step process (Strong & Volkoff, 2010; Webster & Watson, 2002).

First, we read each article to identify each reported cue. Second, we identified the effect of each cue on funding performance based on the regression analyses conducted in the respective articles. Third, we aggregated the identified cues into sub-categories that are based on a research theme or congruent concepts conveying a focal message. To achieve this, we started by assigning basic descriptive labels to each cue and developed these labels into summarizing sub-categories using an iterative process of synthesizing underlying concepts, assumptions, and reasoning. The categorization was also informed by the cues’ measurement approaches, appeals, and perceived perceptions. Furthermore, the categorization was aligned with signaling, decision-making, and entrepreneurship literature and how articles conceptualized cues in their research, e.g., message framing, entrepreneurs’ perception, or affective presentation appeal. Throughout the categorization process, we continually iterated on the cues’ sub-categories. We resolved disagreements in cases of different views on the fit between cue and sub-category. In doing so, we ensure comprehensive coverage and independent sub-categories with little conceptual overlap (Hoegen et al., 2017; Strong & Volkoff, 2010). Our analysis resulted in a total of 14 sub-categories, each conveying a focal message. We repeated this process and identified three main research topics. For example, conceptually similar cues reflective of narcissistic characteristics measured as the ‘number of self-mentions’, ‘I-pronouns-ratio’, and ‘narcissistic rhetoric’ have been assigned to the sub-category ‘perceived narcissism’.

Next, we applied vote-counting to analyze the impact of each sub-category on funding performance. Thus, we counted together all identically reported effects on funding performance for each cue regarding each sub-category (Friedrich, 2016; Light & Smith, 1971).
For example, Anglin, Wolfe et al. (2018) reported that the cue ‘narcissistic rhetoric’ has an inverted U-shape effect on three funding performance variables. Bollaert et al. (2019) reported that the cue ‘I-pronouns-ratio’ and ‘High-I-pronouns-ratio’ has a significant negative effect on the same three funding performance variables. Regarding vote-counting, an inverted U-shape effect has been reported three times, and a significant negative effect has been reported six times. As those cues are categorized under the same sub-category, ‘perceived narcissism’, these two articles account for nine out of 23 reported effects. In general, we counted the number of times a reported effect was categorized into one of three classes: significant negative, non-significant, or significant positive (Light & Smith, 1971). In addition, we added the often-neglected inverted U-shaped effect as a fourth class. The class with the largest number is used to conclude the sub-category’s prevalent direction and provides the best estimate of the association between the sub-category and funding performance. Vote-counting also allows us to uncover under-researched relationships (Light & Smith, 1971). Regarding the latter example of ‘perceived narcissism’, vote-counting concludes that the display of such cues has mostly a negative impact, with only a few positive or inverted U-shape effects. Thus, it is assumed that ‘perceived narcissism’ typically has a negative impact. However, initial results show first indications of an inverted U-shape effect, which is worth exploring in future research.

That said, besides a simple linear relationship and the assumption that more is always better, research hypothesized non-linear relationships between cues and funding performance, specifically inverted U-shape relationships. An inverted U-shape is present when a moderate use of a cue around the turning point is beneficial, but extremely high and low levels diminish funding performance (Kakar & Kakar, 2018). Thus, a positive effect occurs until a certain threshold is exceeded. Then a negative effect sets in. For example, the use of ‘narcissistic rhetoric’ offers advantages as a moderate level of perceived narcissism can convey confidence, which is beneficial to entrepreneurial endeavors and increases funding performance. However, high levels of perceived narcissism can become detrimental as entrepreneurs can be perceived as arrogant, leading to unfavorable impressions and decreased funding performance (Anglin, Wolfe et al., 2018). In conclusion, vote-counting provides a quantitative summary of the reported effects and allows us to assess the prevalent effect’s direction in each sub-category on funding performance.

Results

First, we provide an overview of the current research in terms of analyzed platforms, applied theoretical lenses, and funding performance measurements. Second, we report the cue’s effects on funding performance.

In recent years, interest in studying cues embedded in crowdfunding campaign presentations has grown. Most articles used secondary data, analyzing Kickstarter (81%) or Indiegogo (10%) but neglecting European platforms. Only one article analyzed an Asian crowdfunding platform, Dreamore (Jiang, Han et al., 2020). Three articles conducted experiments (e.g., Sundermeier & Kummer, 2022), and six articles have taken a mixed-method approach to conducting experiments in addition to analyzing secondary data (e.g., Zhu, 2022). Most articles (74%) applied a theoretical lens to better explain the cues’ impact on funding performance, with signaling theory being the most common one (n=17). Other theoretical lenses that have been applied at least twice include the elaboration likelihood model (n=5), framing theory (n=5), impression management (n=3), language expectancy theory (n=3), emotional contagion theory (n=2), self-determination theory (n=2), social role theory (n=2), and stereotype content model (n=2).

RBCF research applied various measurements for funding performance to assess the cues’ impact. Often, articles have accounted for multiple funding performance variables to confirm
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the robustness of their results (e.g., Rossolini et al., 2021). The higher the measurements, the greater the funding performance, except for ‘time to raise pledge goal’, where a lower number of days reflects better funding performance. We accounted for this reversed impact.

<table>
<thead>
<tr>
<th>Table 1 – Summary of Funding Performance</th>
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<tbody>
<tr>
<td>Funding performance</td>
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<tr>
<td>Success</td>
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<tr>
<td>Funding raised</td>
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<tr>
<td>Number of backers</td>
</tr>
<tr>
<td>Funding ratio</td>
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<tr>
<td>Funding intention</td>
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<tr>
<td>Social media exposure</td>
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<tr>
<td>Pledge per backer</td>
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<tr>
<td>Pledge per day</td>
</tr>
<tr>
<td>Time to raise pledge goal</td>
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<tr>
<td>Sharing intention</td>
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<tr>
<td>Margin</td>
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</tbody>
</table>

Regarding the campaign presentation modalities, research focused on analyzing cues embedded in written descriptions (text), images (pictures), and pitch videos. Within pitch videos, researchers distinguished between visual content (video) and verbally spoken words (speech). However, some articles have not made distinctions between these modalities, instead aggregating the cue’s perceptions from multiple modalities (aggregated), e.g., the overall perceived pathos, ethos, or logos of the campaign presentation (Steigenberger & Wilhelm, 2018). All articles have disclosed their analyzed modalities and cues.

Analysis of Cues on Funding Performance

Three main research topics on influencing factors emerged, i.e., communication strategies, perceived entrepreneurs’ characteristics, and appeal to emotions. Each topic contains four to five sub-categories, resulting in a total of 14 sub-categories. The vote-counting results are presented in Tables 2-5, reflecting the reported cues’ significant negative, non-significant, significant positive, and inverted U-shaped effects on funding performance.

Communication Strategies

The first main research topic covers general communication strategies and synthesizes language characteristics and message appeals that are commonly studied in the campaign’s textual description. Compared to the following sub-categories that analyze the effect of cues emphasizing a certain message appeal, the first sub-category summarizes how something written or spoken affects funding performance. That said, language characteristics that motivate backers to carefully analyze and think about campaign-related information using concept-based (Patel et al., 2021) or cognitive language (Moradi & Badrinarayanan, 2021) have mixed effects. In this regard, Lin and Boh (2021) reported that backers who lack funding experience are less likely to support a campaign that uses language requiring extensive cognitive effort. Thus, ease of understanding is preferable (Zhou et al., 2016). The use of vivid language (Patel et al., 2021), concrete language (e.g., Parhankangas & Renko, 2017; Zhu, 2022), or punctuation (Tajvarpour & Pujari, 2022b) has positive effects. In contrast, language characteristics that do not increase immersion or do not provide structure to a narration, e.g., using conjunctions or vague language, have negative effects (Costello & Lee, 2022; Kim et al., 2016). Overall, research reported mixed results.

Regarding the campaign’s message appeal, the subsequent sub-categories highlight cues that refer to concepts central to a frame or a certain narrative. Framing helps to make messages more convincing and campaign presentations more relatable to backers who can
identify with the message appeal (Defazio et al., 2021). Thus, research examined sustainability-related message framing (appeal to sustainability). Using environmental and social sustainability-oriented words has a positive effect on funding performance (e.g., Rossolini et al., 2021), specifically for technology-oriented projects (Calic & Mosakowski, 2016). However, von Selasinsky and Lutz (2021) reported an inverted U-shaped effect. Overall, research reported more positive than negative/non-significant effects. Initial results show first indications of an inverted U-shape effect.

Narratives that highlight outcomes and rewards typically attract extrinsically motivated backers (appeal to extrinsic motives). As rewards are central to the campaign, the use of reward-related language, i.e., a narrative that emphasizes the product or highlights consumer benefits, has a positive effect on funding performance (e.g., Cappa et al., 2020; Kuo et al., 2022; Tajvarpour & Pujari, 2022b). Also, the product should be described as not too atypical but also not too similar to other products (Wei et al., 2021). Besides, gratitude-related words that emphasize altruistic and pro-social campaign values (appeal to intrinsic motives) also have positive effects (e.g., Nielsen & Binder, 2020), while help-seeking-related words have non-significant effects (Yuan & Wang, 2020). Yet, excessive use of pro-social-oriented language has negative effects (Defazio et al., 2021). Overall, research reported more positive than negative/non-significant effects for the appeal to extrinsic and intrinsic motives. Initial results show first indications of an inverted U-shape effect.
Table 2 – Communication Strategies

<table>
<thead>
<tr>
<th>Language characteristics (n=10)</th>
<th>Effect on funding performance (vote-count)</th>
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<tbody>
<tr>
<td></td>
<td>Embedded in</td>
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<td>+</td>
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<tr>
<td></td>
<td>Speech</td>
<td></td>
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<tr>
<td>Cues related to how narrations are written or spoken, e.g., ‘conjunctions’, ‘punctuation’, ‘concrete language’, ‘analytical language’, or ‘vague language’.</td>
<td>Mixed results. Immersive language and providing structure have primarily positive effects. Vague language and narrations requiring cognitive effort have primarily negative effects.</td>
<td>19</td>
<td>[3,4,28,52,59]</td>
<td>3</td>
<td>[28,39]</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Speech</td>
<td>1</td>
<td>[52]</td>
<td>2</td>
<td>[6,70]</td>
<td>6</td>
</tr>
<tr>
<td>Appeal to sustainability (n=6)</td>
<td>Embedded in</td>
<td>Text</td>
<td>1</td>
<td>[40]</td>
<td>2</td>
<td>[40,47]</td>
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<tr>
<td></td>
<td>Aggregated</td>
<td>0</td>
<td>4</td>
<td>[1]</td>
<td>4</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>Aggregated</td>
<td>0</td>
<td>1</td>
<td>[2]</td>
<td>6</td>
<td>[8,12,17,67]</td>
</tr>
<tr>
<td>Appeal to intrinsic motives (n=8)</td>
<td>Embedded in</td>
<td>Text</td>
<td>3</td>
<td>[28]</td>
<td>5</td>
<td>[26]</td>
</tr>
<tr>
<td></td>
<td>Aggregated</td>
<td>0</td>
<td>1</td>
<td>[2]</td>
<td>2</td>
<td>[2,67]</td>
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<td>20</td>
<td>5</td>
<td>14</td>
<td>0</td>
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Notes: Corresponding references and notes are reported in Table 5.

Perceived Entrepreneurs’ Characteristics

The second main research topic covers cues related to the perception of entrepreneurs, specifically the **entrepreneurs’ characteristics**, such as perceived entrepreneurial traits, credibility, narcissism, and gender. Cues that are reflective of positive entrepreneurial characteristics are often critical to convincing backers (e.g., Li et al., 2017). Accordingly, research examined displayed **entrepreneurial traits**, i.e., how entrepreneurs (un)consciously present themselves to backers using impression management techniques (Korzyński et al., 2021). Cues that are related to the perceived entrepreneur’s propensity and disposition to...
enact entrepreneurship, such as perceived commitment to take the needed steps to achieve stated goals (e.g., Anglin, Short et al., 2018), perceived passion (e.g., Franzoni & Tenca, 2022), perceived rationalism and reasoning (Siebeneicher & Bock, 2022), and highlighting the entrepreneur’s competence, abilities, and dedication (e.g., Korzynski et al., 2021; Sundermeier & Kummer, 2022), have mainly positive effects. However, the display of cues related to revenge, self-disclosure, and intimidation has negative effects. Perceived ingratiation and supplication have mixed effects (Calic et al., 2021; Korzynski et al., 2021). Written cues of autonomy, competitiveness, and risk-taking have an inverted U-shaped effect (Calic & Shevchenko, 2020). That said, displaying positive connotated entrepreneurial traits has primarily positive effects. However, the perception of dark personality traits has primarily negative effects. Initial results show first indications of an inverted U-shape effect regarding perceived entrepreneurial orientation. Overall, research reported mixed results.

Researchers also analyzed cues associated with the entrepreneur’sperceived credibility. Narratives with quantifiable details and differentiation language, used to determine the credibility of the entrepreneur’s claims, have positive effects (Kim et al., 2016). Also, facial trustworthiness is positively related to funding performance (Duan et al., 2020). An authentic language, which should highlight the credibility and truthfulness of the entrepreneur (Younkin & Kuppuswamy, 2018), and professional attire (Li et al., 2021) have no significant effects. Credibility claims related to the capability of the firm (Steigenberger & Wilhelm, 2018), informal language, and speculative language (Kim et al., 2016; Tajvarpour & Pujari, 2022b) have negative effects. Overall, research reported mixed results.

Regarding perceived narcissism, two articles reported that high numbers of self-mentions and narcissistic rhetoric can have positive effects (Gafni et al., 2019; Patel et al., 2021). However, most research reported negative effects regarding excessive use of narcissistic cues (e.g., Bollaert et al., 2019; Butticè & Rovelli, 2020) and perceived psychological distance (Koh et al., 2020). Anglin, Wolfe et al. (2018) reported an inverted U-shaped effect. Overall, research reported more negative than positive/non-significant effects. Initial results show first indications of an inverted U-shape effect. In contrast, perceived collectiveness that stimulates a sense of belonging, i.e., reducing personal distance (Yuan & Wang, 2020; Zhu, 2022) and increasing the salience of group identity (Allison et al., 2017), have positive effects. Overall, research reported more positive than negative/non-significant effects.

Also, researchers accounted for gender and race and reported that female-led ventures increase their funding performance on Kickstarter and Indiegogo but not on Headstart (Elitzur & Solodoha, 2021; Younklin & Kuppuswamy, 2018). Anglin, Wolfe et al. (2018) reported no significant effects. While Younklin and Kuppuswamy (2018) reported no significant effects regarding gender-related language, Wang et al. (2022) revealed an inverted U-shape relationship between the display of written masculinity (but not femininity) and funding performance for female entrepreneurs. Cowden et al. (2021) found support for gender role congruity on funding performance. Research also analyzed the entrepreneur’s race, with negative effects on ethnic minorities (Anglin, Wolfe et al., 2018; Younklin & Kuppuswamy, 2018). Overall, research on gender-related verbal cues reported mostly non-significant effects. Cues related to ethnic minorities tend to have negative effects. Female entrepreneurship has primarily positive effects.
Table 3 – Perceived Entrepreneurs’ Characteristics

Perceived entrepreneurial traits (n=16)
Cues related to how entrepreneurs present themselves to potential backers using various impression management techniques that reflect their entrepreneurial traits, e.g., ‘perceived passion’, ‘perceived preparedness’ ‘perceived autonomy’, ‘perceived proactiveness’, ‘positive psychological capital’, ‘perceived intimidation’, ‘perceived supplication, or ‘perceived manipulation’.
Mixed results. Positive connoted entrepreneurial traits have primarily positive effects. Perception of dark personality traits has primarily negative effects. First indications of an inverted U-shape effect regarding perceived entrepreneurial orientation.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th></th>
<th></th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>1 [56]</td>
<td>3 [56,66]</td>
<td>6 [56,66]</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Speech</td>
<td>0</td>
<td>3 [13]</td>
<td>4 [69]</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Aggregated</td>
<td>2 [9]</td>
<td>3 [20,22,63]</td>
<td>9 [10,63,71]</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Σe</td>
<td>14</td>
<td>16</td>
<td>35</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Perceived credibility (n=6)
Cues that let potential backers infer the credibility of the entrepreneur, e.g., ‘perceived ethos’, ‘authenticity words’, ‘facial measures of trustworthiness’, ‘informal words’, or ‘professional attire’.
Mixed results. Language that reduces credibility has primarily negative effects. Perception of trustworthiness has primarily positive effects.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th></th>
<th></th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>0</td>
<td>4 [34]</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Video</td>
<td>0</td>
<td>4 [54]</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>4 [54]</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Aggregated</td>
<td>2 [13]</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Σe</td>
<td>13</td>
<td>9</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Perceived narcissism (n=9)
Cues that reflect narcissistic personality as a pattern of self-aggrandizement, self-importance, and self-focus, e.g., ‘narcissistic personality inventory’, ‘number of self-mentions’, or ‘I-pronouns-ratio’.
More negative than positive/non-significant effects. First indications of an inverted U-shape effect.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th></th>
<th></th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>3 [37]</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>0</td>
<td>1 [6]</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Σe</td>
<td>13</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Perceived collectiveness (n=5)
Cues that reflect a sense of belonging and relatedness, e.g., ‘we-pronouns-ratio’, ‘perceived psychological distance’, or ‘relationship-building language’.
More positive than negative/non-significant effects.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th></th>
<th></th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded in Text</td>
<td>1 [39]</td>
<td>2 [8,26]</td>
<td>4 [26,60]</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Speech</td>
<td>0</td>
<td>0</td>
<td>1 [8]</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Aggregated</td>
<td>0</td>
<td>0</td>
<td>1 [8]</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Σe</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 – Perceived Entrepreneurs’ Characteristics

<table>
<thead>
<tr>
<th>Gender and race (n=7)</th>
<th>Effect on funding performance (vote-count)</th>
<th>( \Sigma_m )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Embedded in Text</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>( \Sigma_e )</td>
<td>9</td>
</tr>
</tbody>
</table>

Notes: Corresponding references and notes are reported in Table 5.

Appeal to Emotions

The third main research topic covers the effects of verbal and nonverbal, positive and negative affective cues on funding performance, i.e., appeal to emotions. Affective cues play a central role in interpersonal communication and decision-making, as emotional expressions can trigger conscious inferential processes and subconscious affective reactions. Those can significantly alter the backer’s funding decision (e.g., Jiang, Yin et al., 2020; Lin & Boh, 2021).

As affective cues have been extensively studied in relation to decision-making (Lerner et al., 2015), we dedicated a separate research topic to the analysis of affective cues as an additional yet distinct presentation appeal.

That said, **positive verbal affective cues** are measured as the number of positive written or spoken emotional words and positive sentiment. While some articles reported non-significant effects (e.g., Allison et al., 2017; Moradi & Dass, 2019), most articles reported positive effects (e.g., Koch & Siering, 2019; Wang et al., 2017). Zhou et al. (2016) reported an inverted U-shape effect. Overall, research reported more positive than negative/non-significant effects. Initial results show first indications of an inverted U-shape effect. Due to the low number of analyzed **negative verbal affective cues**, a tendency could not be assessed (Jiang, Han et al., 2020; Moradi & Dass, 2019; Youkin & Kuppuswamy, 2018).

**Positive nonverbal affective cues** measured as facial expressions of happiness in videos and pictures have positive effects on funding performance (e.g., Jiang, Yin et al., 2020; Lin & Boh, 2021), usually (Li et al., 2021). However, research also proposed that high intensity of emotional expressions is felt as inappropriate and interpreted as less authentic, thus reporting inverted U-shape effects (e.g., Raab et al., 2020; Warnick et al., 2021). Overall, displaying positive nonverbal affective cues has more positive than non-significant effects, with strong indications for an inverted U-shape effect. Similarly, **negative nonverbal affective cues**, such as facial expressions of sadness in pictures (Raab et al., 2020) and fear and anger in videos, have inverted U-shaped effects. Sadness in videos has a negative effect (Warnick et al., 2021). Overall, research reported strong indications for an inverted U-shape effect.

Finally, **other affective cues**, such as perceived pathos, have a non-significant effect (Steigenberger & Wilhelm, 2018). Research that did not distinguish between positive and negative cues reported positive effects (e.g., Chen et al., 2016). Due to the low number of analyzed cues, a tendency could not be assessed.
Table 4 – Appeal to Emotions

Positive verbal affective cues (n=11)
Cues related to written positive words, e.g., ‘number/ratio of positive words’, ‘tone’, or ‘sentiment’.
More positive than negative/non-significant effects. First indications of an inverted U-shape effect.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th>−</th>
<th>o</th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Σe</td>
<td>2</td>
<td>8</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Negative verbal affective cues (n=3)
Cues related to written negative words, e.g., ‘number/ratio of negative words’.
A tendency could not be assessed.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th>−</th>
<th>o</th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Σe</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Positive nonverbal affective cues (n=7)
Cues related to positive facial expressions in pictures and videos, e.g., ‘happiness’, ‘length of expressed peak joy’, or ‘joy intensity’.
Strong indications of an inverted U-shape effect.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th>−</th>
<th>o</th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>0</td>
<td>6 [38,54]</td>
<td>7 [38,52]</td>
<td>7 [38,53]</td>
<td>20</td>
</tr>
<tr>
<td>Σe</td>
<td>0</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Negative nonverbal affective cues (n=3)
Cues related to negative facial expressions in pictures and videos, e.g., ‘sadness’, ‘anger’, or ‘fear’.
Strong indications of an inverted U-shape effect.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th>−</th>
<th>o</th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded in Picture</td>
<td>0</td>
<td>1 [53]</td>
<td>3 [53]</td>
<td>5 [53]</td>
<td>9</td>
</tr>
<tr>
<td>Video</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Other affective cues (n=3)
Cues that did not distinguish between the positive and negative valence or other affect-related cues, e.g., ‘emotional framing’ or ‘perceived pathos’.
A tendency could not be assessed.

<table>
<thead>
<tr>
<th>Effect on funding performance (vote-count)</th>
<th>−</th>
<th>o</th>
<th>+</th>
<th>inv. u</th>
<th>Σm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded in Text</td>
<td>0</td>
<td>0</td>
<td>2 [2,51]</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Aggregated</td>
<td>0</td>
<td>2 [12]</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Σe</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Corresponding references and notes are reported in Table 5.
Other Cues

Other cues that do not warrant their own sub-category, as they were analyzed in only one article, are reported in this section. That said, using language to promote events in the future (Lin et al., 2019), using language to request support to explore new markets (Zhang et al., 2022), or applying risk rhetoric (Tajvarpour & Pujari, 2022b) have negative effects. Both subjectivity and objectivity claims in the narration have a positive effect (Tafesse, 2021; Wang et al., 2021). Writing about specific topics (Jiang, Han et al., 2020), money (Chan et al., 2021), or portraying a dream (Allison et al., 2017) affects funding performance. Also, researchers analyzed the video content (Li et al., 2019) in addition to the time of appearance of entrepreneurs, eye gaze (Li et al., 2021), and changes in facial expressions (Warnick et al., 2021). As cues in this sub-category have been investigated in only one article, the effect's direction cannot be assessed yet.

Table 5 – Other Cues

<table>
<thead>
<tr>
<th>Other cues (n=16)</th>
<th>Effect on funding performance (vote-count)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Embedded in</td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td>11</td>
</tr>
<tr>
<td>Video</td>
<td>5</td>
</tr>
<tr>
<td>Aggregated</td>
<td>0</td>
</tr>
<tr>
<td>Σ_e</td>
<td>16</td>
</tr>
</tbody>
</table>

References:

1 = Calic and Mosakowski (2016)
2 = Chen et al. (2016)
3 = Kim et al. (2016)
4 = Zhou et al. (2016)
5 = Wang et al. (2016)
6 = Parhankangas and Renko (2017)
7 = Wang et al. (2017)
8 = Allison et al. (2017)
9 = Davis et al. (2017)
10 = Li et al. (2017)
11 = Younkin and Kuppuswamy (2018)
12 = Steigenberger and Wilhelm (2018)
13 = Anglin, Short et al. (2018)
14 = Zhang and Chen (2019)
15 = Anglin, Wolfe et al. (2018)
16 = Lin et al. (2019)
17 = Xiang et al. (2019)
18 = Koch and Siering (2019)
19 = Bolluert et al. (2019)
20 = Chan et al. (2019)
21 = Bento et al. (2019)
22 = Oo et al. (2019)
23 = Li et al. (2019)
24 = Moradi and Dass (2019)
25 = Gaini et al. (2019)
26 = Yuan and Wang (2020)
27 = Nielsen and Binder (2020)
28 = Patel et al. (2021)
29 = Defazio et al. (2021)
30 = Cappa et al. (2020)
31 = Calic and Shevchenko (2020)
32 = Raab et al. (2020)
33 = Jiang, Han et al. (2020)
34 = Duan et al. (2020)
35 = Wang et al. (2020)
36 = Butticé and Rovelli (2020)
37 = Ullah and Zhou (2020)
38 = Jiang, Yin et al. (2020)
39 = Koh et al. (2020)
40 = Rossolini et al. (2021)
41 = Wei et al. (2021)
42 = Calic et al. (2021)
43 = Yuan et al. (2021)
44 = Ma and Palacios (2021)
45 = Elitzur and Solodoha (2021)
46 = Wang et al. (2021)
47 = Chan et al. (2021)
48 = Wesemann and Wincent (2021)
49 = Cowden et al. (2021)
50 = Tafesse (2021)
51 = Moradi and Badhrinarayanan (2021)
52 = Lin and Boh (2021)
53 = Warnick et al. (2021)
54 = Li et al. (2021)
55 = von Selasinsky and Lutz (2021)
56 = Korzynski et al. (2021)
57 = Jung et al. (2022)
58 = Tajvarpour and Pujari (2022a)
59 = Costello and Lee (2022)
60 = Zhu (2022)
61 = Zhang et al. (2022)
62 = Tajvarpour and Pujari (2022b)
63 = Jiang et al. (2022)
64 = Franzoni and Tenca (2022)
65 = Siebeineicher and Bock (2022)
66 = Sundermeier and Kummer (2022)
67 = Kuo et al. (2022)
68 = Wang et al. (2022)
69 = Allison et al. (2022)
70 = Chang et al. (2022)
71 = Oo et al. (2022)

Notes: n = number of articles; – = significant negative effect (p<0.05); o = non-significant effect; + = significant positive effect (p<0.05); Inv. u = significant inverted U-shape effect; [...] = references; Σ_m = sum of each modality; Σ_e = sum of each effect.
Discussion

Implications for Academia

Despite the physical distance and embedded in virtual, asynchronous communication, either intentionally or unconsciously displayed cues reflect certain snippets of information that signal supplementary information about the campaign and entrepreneur, affecting the backers’ funding decisions. Like provider profile information in crowdsourcing marketplaces (Assemi et al., 2022), RBCF research reports that cues serve backers as proxies to infer entrepreneurs’ characteristics, such as passion. Furthermore, decision-making is susceptible to the (sub)conscious influence of affective cues, such as displayed happiness. Also, a narrative can incorporate specific communication and framing strategies that appeal to certain backers, such as sustainability. By covering recent information systems and entrepreneurship literature and not being restricted to one focal research objective, this study provides a comprehensive and systematic review of how various conceptually similar cues (i.e., sub-categories) have distinct impacts on funding performance. Vote-counting and accounting for negative, non-significant, positive, and inverted U-shaped effects enable us to provide a generalized conclusion about each sub-category’s effect on funding performance. As the campaign presentation serves as the central IT artifact that provides information and enables communication between entrepreneurs and backers, our study adds to current literature (e.g., Alhammad et al., 2022; Hoegen et al., 2017) that besides the communication modalities (i.e., number of written or spoken words, pictures, and videos), the (intensity of) cues embedded in these modalities are vital drivers affecting decision-making.
So far, RBCF research has examined a wide range of cues, but there are still cues with fruitful impacts to explore. Although many entrepreneurial characteristics have already been examined, certain personality-related cues, such as perceived openness, conscientiousness, extraversion, agreeableness, neuroticism, need for achievement, locus of control, stress tolerance, overconfidence, overoptimism, tenacity, or entrepreneurial self-efficacy, have not been discussed yet. Comparing the results of such personality-related cues with traditional entrepreneurship (e.g., Frese & Gielnik, 2014) can be an interesting avenue for future research. Financial cues are another unexplored area. Although most RBCF campaign presentations do not discuss financial considerations, cues embedded in a (sometimes added) standardized project budget section on Kickstarter could be examined. In this regard, given that a backer typically lacks expertise in venture evaluation but pays attention to entrepreneurial orientation, the perceived entrepreneur's financial literacy could be analyzed. In this vein, future research could draw on cues analyzed in lending-based and equity-based crowdfunding research and compare their impact on RBCF funding performance. Moreover, while visual concepts in pitch videos, such as the display of “workspace” environments (Ma & Palacios, 2021), or talking about specific topics, such as potential development issues (Costello & Lee, 2022), can influence funding decisions, topic-related cues have only recently been analyzed. With the advent of AI-based methods (e.g., computer vision, natural language processing), topic-related and content-related mining of text, pictures, videos, and speech can be realized. Also, it is not apparent how gestures, body language, and emoticons affect funding performance. Although campaign presentations often display text within pictures and videos to describe features, research has not utilized optical character recognition to analyze such content. Moreover, verbal cues embedded in speech have been mostly neglected, including sound, such as music. Regarding communication modalities, besides nonverbal affective cues, research on cues embedded in pictures and pitch videos is relatively sparse.

Although campaign presentations display multiple cues simultaneously, current literature primarily focuses on cues in isolation, neglecting the possibility of moderation effects (Hoegen et al., 2017). A notable exception is Patel et al. (2021), who examined how image- and concept-based rhetoric moderate the relationship between narcissistic rhetoric and funding performance. Yet, it is still unclear how distinct combinations of cues can influence funding decisions and whether these combinations complement or substitute for each other’s effects. In this regard, researchers could investigate how redundancy or overlap of the same conceptually similar cues embedded in different modalities substitute for or complement each other. To investigate such issues, researchers could use asymmetric data analysis techniques as applied by van de Wetering (2021).

Certain sub-categories, such as positive (non)verbal affective cues, perceived narcissism, and appeals to extrinsic and intrinsic motives, have been well-researched. But the tendency for some other sub-categories is difficult to assess. Due to the low number of analyzed cues, the tendency for the sub-categories ‘negative verbal affective cues’ and ‘other affective cues’ is difficult to assess. As cues within the sub-category ‘other cues’ have been investigated in only one article, their prevailing effect direction cannot be assessed, indicating the need for further research. As articles reported inconsistencies regarding the cue’s effect direction, possible reasons are discussed. Accordingly, the mixed results of the sub-categories ‘language characteristics’, ‘perceived entrepreneurial traits’, ‘perceived credibility’, and ‘gender and race’ are examined next. While ‘language characteristics’ that increase immersion and provide structure to narrations (e.g., vivid language, concrete language) have positive effects on funding performance, the opposite (e.g., use of conjunctions, vague language) has negative effects. Positively connotated ‘perceived entrepreneurial traits’ related to the perceived entrepreneur’s orientation have primarily positive effects, while the perception of dark personality traits has corresponding negative effects. Cues that typically increase the ‘perceived credibility’ (e.g., facial trustworthiness, narratives using differentiation language) positively affect funding performance, whereas those that reduce it (e.g., informal language, speculative language) have corresponding negative effects. Regarding ‘gender and race’,
cues related to ethnic minorities tend to have negative effects. Gender-related verbal cues are mostly non-significant. Female leadership has positive effects, with one exception reporting negative effects, which might be due to the analyzed platform (Kickstarter/Indiegogo vs. Headstart). Further research on these cues can help better understand their impact.

Besides the platform, the campaign category might also be a moderating factor worth investigating. For example, the effects of sustainability-related cues were found to differ for technology-related and film-related campaigns (Calic & Mosakowski, 2016). Next, Costello and Lee (2022) reported opposing effects of written positive sentiment when embedded in the description versus the risk-and-challenges section. Although the campaign presentation is often standardized and mandates specific sections (e.g., Kickstarter mandates a description and risk-and-challenges section), content-specific sections can be added (e.g., Kickstarter lets entrepreneurs add a project budget or an environmental commitment section). Accounting for different platforms, campaign categories, and sections can deliver additional insight regarding the cue’s unique effects. Furthermore, while perceived passion has been shown to have positive effects on funding performance in both pitch videos and text, the impact of positive psychological capital appears to vary depending on the communication modality used (Anglin, Short et al., 2018). That said, more research is needed to understand how conceptually similar cues are moderated by the communication modality. As articles often account for only a small subset of cues, omitted cues during the analysis might also introduce inconsistencies. For example, positive sentiment has a non-significant effect when analyzed in conjunction with reward-related cues but a significant effect when such cues are omitted (e.g., Allison et al., 2017; Younkin & Kuppuswamy, 2018).

When reporting both positive and negative effects related to conceptually similar cues, such contrasting findings can be an indication of a non-linear relationship. Thus, research has started considering non-linear relationships between cues and funding performance over linear relationships. Researchers concluded that more is not always better and proposed that the association between cues and funding performance can be better understood by considering a turning point, such as an inverted U-shaped effect. These findings are particularly evident when cues are perceived as inappropriate, e.g., ‘appeal to emotion’. Additionally, when the intensity of displayed cues does not align with the expectation of entrepreneurial behavior, an inverted U-shape effect can also be considered, as an entrepreneur can be perceived as less authentic and trustworthy (e.g., Warnick et al., 2021). Additionally, intense use of cues that foster a certain message framing can backfire as backers may not trust the exuberant claims and become more skeptical, e.g., ‘appeal to sustainability’ (e.g., von Selasinsky & Lutz, 2021). Accordingly, more research should account for non-linear effects (both inverted and regular U-shape) to explain how the cue’s intensity affects decision-making, specifically when intense use might be perceived as inappropriate or manipulative.

Most articles used secondary data, so conducting experiments and surveys would be beneficial to investigate how cues experienced at the time of decision-making affect backers’ perceptions of the campaign and their funding behavior. In this regard, current research draws upon well-established theoretical lenses, such as signaling theory or the elaboration likelihood model, to explain how the perception of cues reduces information asymmetry and impacts backers’ attitudes, information processing, and decision-making. Yet, we encourage researchers to adopt suitable theoretical lenses beyond signaling to comprehensively describe how cues affect decision-making. For example, theoretical lenses such as emotional contagion theory, emotion as social information, or affective events theory can be applied when analyzing affective cues. Language expectancy theory or expectancy violation theory can be used when accounting for impression management techniques. Additionally, theoretical lenses that consider cognitive load and cue processing during decision-making can be applied, specifically when accounting for non-linear effects, e.g., cognitive fit theory, cognitive load theory, information processing theory, or dual coding theory.
Although the global crowdfunding market is growing steadily every year, with the Chinese market alone accounting for one-sixth of the global market in 2025 and being estimated to grow to be the world’s largest (Best et al., 2013), the Asian crowdfunding markets have received less research attention so far. One exception is the research of Jiang, Han et al. (2020), which provided insights into how emotional appeal affects funding performance by analyzing the Asian platform Dreamore. Although their findings were consistent with those from Kickstarter, it is essential for RBCF research to examine and challenge the effects of cues on various platforms and socioeconomic regions, taking into account factors such as culture (Merhi, 2021). That said, research has primarily focused on the English-speaking platform Kickstarter and neglected European platforms (e.g., Startnext) and Asian platforms (e.g., Campfire, Dreamore, or JD crowdfunding). To further diversify RBCF research, it is necessary to conduct more research in these growing markets.

Table 6 – Research agendas and recommendations for future RBCF research

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<th>Theme</th>
<th>Research Agendas</th>
<th>Research Questions</th>
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| Underrepresented cues                      | Analyzing the effect of not yet analyzed cues (adopted from other crowdfunding types). Analyzing cues that have been investigated in only one or a few articles. | • How do …  
- nonverbal cues (e.g., body language, gestures, emoticons)  
- textual cues embedded in pictures and videos (OCR)  
- sound and music  
- financial cues (e.g., financial literacy)  
- personality traits (e.g., self-efficacy, extraversion, conscientiousness) … affect funding performance?  
• What is the tendency for less-researched cues? |
| Moderation effects                         | Analyzing how combinations of cues moderate, complement, or substitute for each other’s effects and accounting for omitted cues.                    | • How do cues moderate each other’s effects?  
• What combinations of cues complement or substitute for each other’s effects?  
• How do overlap and redundancy affect funding performance? |
| Underrepresented modalities and sections   | Analyzing cues in previously not analyzed modalities (specifically pictures, videos, and speech). Analyzing cues regarding different sections of campaign presentations or campaign categories. | • How does the modality moderate the cue’s effect on funding decisions?  
• How do cues in previously not analyzed modalities affect funding performance?  
• How does the campaign presentation section or category moderate the cue’s effect on funding performance? |
| Non-linear assumption                      | Accounting for non-linear effects of cues.                                                                                                       | • How does the intensity of (specific) cues affect funding performance?  
• What cues are likely to have a non-linear effect on funding performance?  
• How do variety and frequent changes of cues affect funding performance? |
| Applied research methods and theoretical lenses | Analyzing the impact of cues by conducting experiments. Adopting less explored theoretical lenses.                                                | • How, and why, do cues affect the funding decision at the time of decision-making? |
| Differences and similarities between distinct RBCF platforms and markets | Analyzing the impact of cues on different RBCF platforms besides Kickstarter (under-representation of Asian and European platforms). | • How do cues affect funding decisions on other platforms besides Kickstarter?  
• Does the culture or region of a platform moderate the cue’s effect on funding performance? |
Implications for Practice

Our review demonstrates to entrepreneurs that a wide range of cues embedded in different modalities can affect the backers’ decision-making. Therefore, it is beneficial for entrepreneurs to know what types of cues to intentionally display. For example, entrepreneurs should not only emphasize the rewards or self-benefits of supporting the campaign but also express gratitude to stimulate the backer’s sense of social recognition, i.e., call on both intrinsic and extrinsic motives. As backers have no personal access to entrepreneurs, expressing passion via the pitch video and using relationship-building language in the narration can significantly increase funding performance by reducing the perceived psychological distance between backers and entrepreneurs. However, entrepreneurs should use a moderate number of affective nonverbal cues, such as facial expressions of happiness, as high intensities of cues might be perceived as inappropriate or manipulative. Also, entrepreneurs need to be aware of the cues they display unconsciously, as not all encourage funding, such as a high 'I-pronouns-ratio,' vague and informal language, or cues of intimidation. Therefore, platform providers should offer best practice guidelines. As many backers may not be aware of how cues, such as emotional appeals via an emotional contagion process, can influence their attitudes and behaviors, our research increases awareness of how cues could affect their funding decisions.

Limitations

Our research is not without limitations, as our results only account for RBCF research. Also, we excluded articles that only reported results regarding prediction accuracy without providing empirical results on the effect’s direction and significance. Although such articles could have analyzed additional cues, they applied similar topic-modeling and content-mining techniques as Jiang, Han et al. (2020) and Li et al. (2019). While developing our sub-categories, we grouped conceptually similar cues by synthesizing underlying concepts and theories and accounting for the measurement approach and perceived perception. However, there might be alternative ways to synthesize the reported cues. As the vote-counting technique does not consider the sample size or effect size, additional methods, such as meta-analytic studies with structural equation modeling, can be applied to further analyze and discuss the effects of selected sets of cues.

Conclusion

This review examines verbal and nonverbal cues in various modalities of the crowdfunding campaign presentation, synthesizing and discussing their effects on funding performance. We reviewed 71 articles, categorized conceptually similar cues into sub-categories, and applied vote-counting. The review discusses that some sub-categories tend to lean towards positive or negative effects, with first indications of an inverted U-shape effect. However, the direction is not straightforward for all sub-categories. This study contributes to the RBCF literature by drawing attention to: (1) Examine cues that have been investigated in only a few articles or reported mixed effects. (2) Account not only for the cue’s linear but also non-linear effects. (3) Investigate what specific combinations of cues moderate, complement, or substitute for each other’s effects. (4) Explore cues that have not yet been analyzed, such as those reflective of personality traits or financials. (5) Analyze cues embedded in pictures, speech, and videos, as such research is still in its early stages. Providing a better understanding of the effects of cues embedded within the campaign presentation benefits all involved parties.
The Influence of Campaign Presentation Cues on Crowdfunding Performance / Raab

References


About the Author

Maximilian Raab is a Ph.D. student and Research Assistant at the Chair of Industrial Information Systems at the University of Bamberg. He received the M.Sc. degree in Information Systems from the University of Bamberg. His research focuses on the areas of crowdfunding, in particular, the affective and cognitive features influencing investment decisions.