

Nascent entrepreneurs during start-up competitions: Between beauty contests and co-created problematization[☆]

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ABSTRACT

Problem-oriented research is increasingly gaining currency in entrepreneurship research. In this article, we respond to the need for more action-based perspectives in entrepreneurship. By employing an inductive research design based on qualitative interviews and participant observations, we discuss empirical evidence about two alternative problem formulation processes in the context of start-up competitions. We find that entrepreneurs may perceive start-up competitions as ‘beauty contests’, with the consequence of overpromised expectations, misaligned goals, and underutilized use of resources. The beauty contest represents a traditional interpretation of start-up competitions because it concentrates mainly on impressions and misses addressing real problems that entrepreneurs face. An alternative model for a new breed of start-up competitions is represented by co-created problematization, which challenges conventional thinking with a joint role for entrepreneurs and academics. We reflect on the mediating role of co-creation in a problem formulation process from joint problem definition toward joint problem solution, describe possible frictions, and highlight the need to re-design start-up competitions and shift towards a co-created setting where a confrontation between practitioners and academics is stimulated.

1. Introduction

Entrepreneurs increasingly face complex problems (Muñoz et al., 2019) which raises questions for entrepreneurship researchers to articulate problems of practice (Dorst and Cross, 2001; Graebner et al., 2018; Wickert et al., 2021). While political, human, environmental, and health crises push entrepreneurs to think and act radically to *challenge* the status quo to solve the complex puzzles of society, researchers too, are challenged to employ problem formulation research that has a societal impact (Shepherd et al., 2021; Williamson et al., 2021). To make sense of problems, entrepreneurs extensively use their resources through relationships and interactions (Grönroos, 2012; Hyttinen, 2021), which leads to co-created problem formulation and idea solution when various stakeholders provide different perspectives on the defined problem (e.g. Maher et al., 1996; Shams and Kaufman, 2016; Sharma and Bansal, 2020a). A context for co-creation is represented by start-up competitions (SUCs) as they may have a key role to collaborate on problem formulations (Passaro et al., 2017; Van Burg et al., 2008). However, while SUCs offer guidance to eventually move to the market, their structure is often detached from reality, with a particular focus on individual development through competition. SUCs particularly fail to utilize experimentation and

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co-creation to think differently about problem framing and solving (Schwartz et al., 2012; Watson and McGowan, 2020).

Among the stakeholders in problem formulation processes, academics can provide contributions as a design act by providing alternative approaches to reframe the problem and solution (Beckman, 2020; Dell'Era et al., 2020; Foucault, 1985). This is of relevance since practitioners and researchers may interact to produce more relevant knowledge, further translatable research (Bansal et al., 2012; Rynes et al., 2001), revised thinking (Nabi et al., 2016) and reveal epistemic differences in problem perspectives and perceived context (Savage et al., 2010; Sharma and Bansal, 2020b). By applying design principles, problems and solutions are reframed and refined, resulting in the co-evolution and alignment of the problem-solution process (e.g. Berglund et al., 2018; Berglund, 2021; Sharma et al., 2022). Specifically, academics may align theory and practice with reflective efforts to design actionable interventions (Schön, 1983; Cronin et al., 2021; Dimov et al., 2021), and emphasize co-creation between participants, but if, and how, this is currently integrated into SUCs remains unclear (Watson and McGowan, 2020). Although recent 'we-practice' and 'me-search' drives problem-based research to solve practical problems and contextualize entrepreneurship, more action-based perspectives are needed (Rynes et al., 2018; Shepherd et al., 2021; Williams and Whiteman, 2021).

In this article, we identify a significant misalignment between how SUCs are designed to test, generate, build, and evaluate entrepreneurial problems, and how academics engage in the problem-solution process (Berglund et al., 2018; Romme, 2003). We attempt to theorize about problem-solution design strategies to narrow this research-action gap in SUCs, by addressing: *how does problem-solution design advance between entrepreneurs and academics in a SUC context?* Building on entrepreneurship literature on scholarly impact (Frank and Landström, 2016; Ployhart and Bartunek, 2019; Sharma and Bansal, 2020b), problem-based research (Chen et al., 2022; Hyytinen, 2021) and problem-solution as reflective practice (Dewey, 1938; Dorst and Cross, 2001; Schön, 1984), we problematize the effectiveness of SUCs, and indicate a need for problem-based researchers to actively challenge conventional thinking with practitioners. Specifically, we support the 'co-created problematization', a joint process in which meaningful problem-solution processes are reframed with the help of reflective conversations (Dewey, 1938; Schön, 1983). Co-created problematization helps entrepreneurs and researchers simultaneously to redesign problems that question, rather than confirm, what is already known (Foucault, 1985). We highlight two important factors, *mutual commitment* and *mutual alignment*, to identify what entrepreneurs need, to understand how academics can implement this need, and how future research may contribute to implement this.

Our study contributes by offering insights into the challenges young ventures face and the relevant role of academics to collaborate on these problems in three ways. Firstly, we contribute by arguing why traditional SUCs may no longer hold and how an action-based response assists to consider alternative problem formulation processes in entrepreneurship. Secondly, our proposed model highlights how SUCs need to evolve from a model based on competing for 'ready' solutions toward co-created problematization. Lastly, we identify a need for academics to problematize their role in SUCs, emphasize their challenges, and the room for improvement in this problem-driven transition.

2. New venture problems and start-up competitions

Nascent entrepreneurs find themselves on a challenging journey to design problems and corresponding solutions (Bianchi and Verganti, 2021). Refining and integrating problems jointly is key for problem-solution co-evolution (Dorst and Cross, 2001), since interactions during co-created processes stimulate not only the creation of joint value and shared perceptions (Alvarez et al., 2020; Savage et al., 2010; Sharma et al., 2022), but additionally to revised thinking processes to overcome subjective knowledge interpretation (Simon, 1959; Klein and Foss, 2012), expose different problem perspectives (Nabi et al., 2016; Savage et al., 2010; Sharma and Bansal, 2020b) and define a shared entrepreneurial problem (Muñoz and Cohen, 2018; Sagath et al., 2019). One way to overcome "legitimizing what is already known" is to provoke dialogues such as counterintuitive conversations (Foucault, 1985, p. 9; Patriotta, 2017) in which alternatively framed problems emerge (Bianchi and Verganti, 2021; Dorst, 2011). Specifically, by problematizing assumptions, practitioners question "how and to what extent it might be possible to think differently" (ibid) to understand how the problem is conceived, what is already known and not known yet (Bartunek and Rynes, 2014; Schön, 1983), to find problem-solution expansion through reframing (Dewey, 1938; Dorst, 2015).

Academics may offer potential contributions to critical thinking, as problem-oriented researchers are not only accustomed to developing strategies that anticipate on what may happen (Dewey, 1938), but could additionally offer novel standpoints to reframe problems (Hyytinen, 2021; Schön, 1984). Research and practice, though, are often separated (Sharma and Bansal, 2020b). While academics may use reflective efforts to support problem framing and solving to co-create alternative approaches (Beckman, 2020) to conduct research that impacts practice, it is unclear how this can be applied in the context of start-up competitions. This brings forward the necessity to understand how academics can be committed to, and aligned with, co-created problem-solution design.

A context that potentially brings research and practice together in nascent entrepreneurship are start-up competitions, in which inexperienced entrepreneurs are encouraged to test the potential of their ideas to eventually move to the market (Schwartz et al., 2012). A typical SUC structure moves from idea submission, back to a screening and selection process by the organization, toward the final step in which participants work on a business plan to gain legitimacy - a generalized perception to achieve desirable actions (Passaro et al., 2017; Suchman, 1995), while academics typically adopt a role to teach or collect data for their research project (Sharma et al., 2022). This is problematic for problem-driven research in two ways. *Firstly*, for the position of academics, since their engagement appears to be concentrated on research projects only, detached from the problem formulation process of entrepreneurs. *Secondly*, SUCs appear to be taken for granted (Fayolle, 2013), solely aiming to develop individual qualities of the founder to help filtering out less viable proposals through competition (Wen and Chen, 2007). In so doing, SUCs miss real-world emphasis (Vincett and Farlow, 2008; Watson and McGowan, 2020) and lack space for experimentation and co-creation of the problem-solution co-evolution (Dewey, 1938; Dorst and Cross, 2001; Dorst, 2015). To understand these discrepancies, we investigate how joint problem formulation between entrepreneurs and academics aligns research to impact practice in a SUC context (Rynes et al., 2018).

3. Approach and context

Method¹ In this study, we combine field observations and semi-structured interviews with participants of a start-up competition. Following the principles of the Gioia Methodology (Gioia et al., 2013), we compare and contrast data to inductively construct insights from hidden meanings that theoretically advance a phenomenon (Glaser and Strauss, 1967). The Gioia Methodology is particularly helpful since it crucially shows how data moves to “the process of constructing the model” (Gioia, 2021, p. 26), “generating a grounded process model that shows the most likely explanations of the phenomena of interest” (Magnani and Gioia, 2023, p. 3).

Context An innovative type of competition (Table 1) was organized in parallel with a university Master Program in Entrepreneurship. Business competitions are an appropriate context because they generate new venture ideas, firm birth (Watson et al., 2018) and are widely accepted as a method (Jones and Jones, 2011). Specifically, our novel model of competition was characterized by a joint problem formulation process which provoked a conversation between a team of actors, namely, master students, mentors from the business world, PhDs and post-docs, academics, experts outside academia, business angels (all hereafter defined as ‘actors’), and entrepreneurs. The process involved the following steps: Firstly, entrepreneurs entered a pre-selection phase in which they wrote down the problem they were addressing, key values, its relevance for society, and any additional information which helped the researchers to understand the stage of the problem formulation process. One of the authors then selected, with three independent jury experts, the most interesting applicants, and invited them to take part in a social event. During this event, entrepreneurs presented their idea while questioned by master students, PhDs, post-docs, professors and business mentors about the offered solution to the problem. Thorough observations about these interactions, that represented efforts to think differently (Foucault, 1985) about the problem and solution provided by entrepreneurs, were made by one of the authors, and detailed notes were taken, while the other author provided an external view. These observations helped the researchers to understand how interactions affected entrepreneurs primarily. Then, teams were created and stimulated to have weekly interactions and discussions to encourage the newly created teams to jointly formulate and discuss a problem definition. The process was further characterized by two industrial events with experts outside academia, a final pitch at the end of the competition with business angels, and a post-event with professors and mentors where entrepreneurial outcomes were discussed and evaluated.

Data Sources Table 2 illustrates an overview of the analyzed entrepreneurial firms. These firms were selected by a jury, were contacted by email by one of the authors, and agreed on at least one interview. In total, we conducted 23 interviews with the founders of the ventures. The interviews, which were semi-structured and contained open-ended questions, lasted on average 64 minutes and provided a total of 126 pages. Additional documents, websites, patents, press materials, and a final business plan were provided by the participants or collected by the researchers and then triangulated with the interviews and observations. Following Gioia et al. (2013), we started analyzing the raw data that then emerged into a large sample of 1st-order concepts. These concepts were compared for similarities and differences between the two researchers, reduced to a more manageable number, and eventually labeled by going back and forth between the literature and the data. We then moved into deeper levels of abstraction that originated 2nd-order theoretical themes. From here, the data structure with its final aggregate dimensions developed as is shown in Fig. 1. This figure represents a photo of the theory, while an inductive model (Model 1) in our discussion reflects the movie version of the theory (Magnani and Gioia, 2023).

4. Findings

The data structure features two aggregate dimensions that represent alternative processes of problem-solution formulation and reformulation. The first one is represented by a problematized problem formulation process, which is co-created through interactions provided by the competition context and the involvement of different actors. It is characterized by an active confrontation between entrepreneurs and SUC actors, in which initial solutions are questioned and reshuffled into smaller components through collaboration and interaction. The other (alternative) process is a problem formulation process, which we discuss as a perceived ‘beauty contest’, in which entrepreneurs are mainly mindful of their venture idea appearance, and follow a competitive model to search for legitimacy and confirmation, with little space for co-creation and problem reformulation. Thus, nascent entrepreneurs, when exposed to the opportunity to leverage co-creation with various actors, may either exploit the opportunity or stick to the ‘traditional’ interpretation of the SUC (Watson et al., 2018) as a beauty contest, in which they compete to confirm their original ideas and get a reward in terms of legitimation and recognition.

4.1. Co-created problematization process

Collectively reasoned perspectives - Six entrepreneurial ventures (from fourteen) followed a problem formulation process that was mainly characterized by problematization. “I was inspired by the partnership, they [academics] can give us something, but at the same time, it’s sharing from a two-side perspective, our knowhow, and their experience” [PO-2]. Entrepreneurs had a particular need for interactions to reason jointly because the collaboration was seen as an opportunity to co-create new perspectives about the proposed problem and solution.

Entrepreneurs and academics reset problem-solution - The competition provided entrepreneurs a stage to reset and reformulate a defined problem. Understanding these alterations in problem development is crucial because they contain relevance for knowledge solutions (Chen et al., 2022). Problematization played a crucial role. Initial assumptions about the problems to be solved were openly

¹ Specifically, and unique to our study, one of the authors has actively participated with a new venture idea in a previous edition of the context of this study. This first-person experience is what Shepherd et al. (2021) call ‘me-search’. The observations from this personal experience has led to the problematization and creation of an action-based research problem.

Table 1
Context table problematization process.

Context	Pre-selection phase		Problem-solution space				Post competition event	
	Social event and team creation phase		Industrial event 1		Industrial event 2		End of SUC	
Type of data collection	Evaluation of applicants data, websites, news articles.	Observations of presentations entrepreneurs and their interactions with participants. Field notes were taken.	Interviews		Observations of elevator pitch entrepreneurs and the feedback of experts. Field notes were taken.	Observations of final pitch entrepreneurs and the evaluation of the jury. Field notes were taken.	Notes were taken about how entrepreneurs and academics evaluated the competition.	Interviews
Participants	Entrepreneurs	Master students, PhDs, post-docs, professors, mentors, entrepreneurs.	Entrepreneurs		Industry experts, professors and entrepreneurs.	Entrepreneurs, professors, industry experts, mentors.	Entrepreneurs, PhDs, post-docs, professors, mentors.	Entrepreneurs

Table 2
Problem-owners and variation in their problem formulation process.

Problem owner	Industry	Initial formulated problem	Illustrative quote that represents (re)formulated problem	Problem formulation process
PO-1	Consumer products, information technology	To overcome the problems of physical places and implement a fully digital solution for sustainable fashion.	<i>"On the basis of the project, we have decided to change the technology and some codes of the platform for the client. As a new point, adding new features and opening a new business model, a new platform basically."</i>	Problematization
PO-2	Energy	To offer a solar panel solution on bumps to companies in order to generate new energy.	<i>"We took the right decision not to focus only on our engineering point of view. Actually, it brought us a huge change, also from a value proposition point of view, because now we aim to feed, for example, personal computers, smartphones, e-bikes and anything for the sharing mobility."</i>	Problematization
PO-3	Development aid, manufacturing	To overcome the barrier of recycling materials for sustainable development, in ways that have mass applications, such as high-ways, in India.	<i>"I participated to understand the concepts of funding" ... "I thought that the competition could give me some practical experience, maybe learn how to pitch, receive local support from the municipality."</i>	Legitimation
PO-4	Consumer products	To produce sustainable products through the fermentation of local rice fields.	<i>"Obviously the competition helped me with my plans but not from a business point of view, because I had my numbers, my research ..."</i>	Legitimation
PO-5	Information technology	To overcome elaboration problems with large volumes of big data processing.	<i>"Things progress very slowly on that side, our main motivation during the competition was to get a patent."</i>	Legitimation
PO-6	Consumer products	To offer a personal smart home device that heavily reduces energy and water usage.	<i>"So in terms of the business model structure I had in mind we made some progress, on the economics, not so much, but on the business model, target market, market value, we advanced."</i>	Legitimation
PO-7	Biotech	To predict the biological effects of new medicines to accelerate new medicine development.	<i>"My kind of business idea grew from the beginning" ... "It was paralleled by my personal growth, I am taking a lot of courses, like product validation, in this period."</i>	Problematization
PO-8	Consumer products, information technology	To overturn the classical e-commerce model and focus on the real needs of the customer that are high quality customized solutions.	<i>"I had more responsibilities, obviously, but they were not shared in the same way, it made the work more difficult. With more support from the outside, I would have felt more motivated to reach the goal."</i>	Legitimation
PO-9	Biotech, Information technology	To offer a new cryptographic technique that helps protecting data and information.	<i>"We understood that 20 minutes just speaking about your idea is maybe too much and we should talk more in terms of business, how to make money. That's what we started to do, following our plan"</i>	Legitimation
PO-10	Consumer products, information technology	To support the aging generation with the purpose to provide contact with family, friends, and caregivers easily.	<i>"Sometimes, change is positive because you can find new ways, but other times it is really annoying. I guess it is the basics of start-ups"</i>	Problematization
PO-11	Food and beverage	To overcome the waste of food by providing a tool that detects the freshness of meat and fish.	<i>"We had the chance to think more deeply about what is useful and what is not, and how to move on." ... "we started to look different at some things"</i>	Problematization
PO-12	Food and beverage, information technology	To provide a digitalized, self-service solution to overcome a lack of space, personnel, and to anticipate on future social distancing in bars and restaurants.	<i>"I have mixed feelings about it, I have to be honest. It was for sure an eye opener in a way" ... "We understood what we did wrong"</i>	Problematization
PO-13	Information technology	A tool that helps individuals from home to analyze life style, body composition, and risks associated with excessive weight.	<i>"When the idea is clear, you can give instructions in a good way, otherwise, you create a mess. So we built the program, how we like to communicate, we organized with deadlines that were feasible, and this went very smooth. I am very happy about it, they did a great job."</i>	Legitimation
PO-14	Information technology	An accessible tool for expats to talk with a psychologist remotely to improve their well-being.	<i>"The main thing was to understand how to address our problem, what we wanted to become. Getting answers on our questions, we don't have this expertise"</i>	Legitimation

A

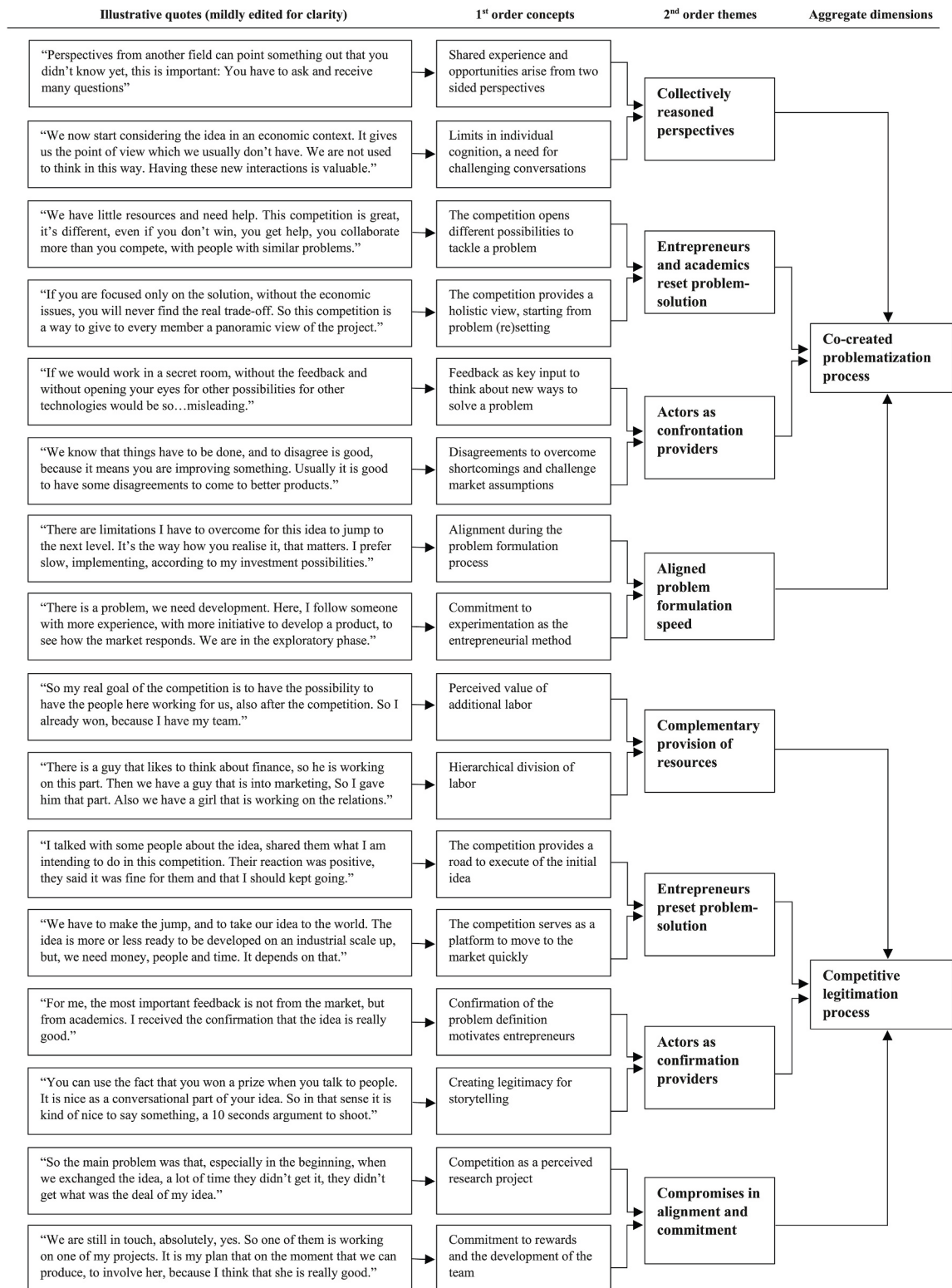


Fig. 1A. Representation of the data structure.

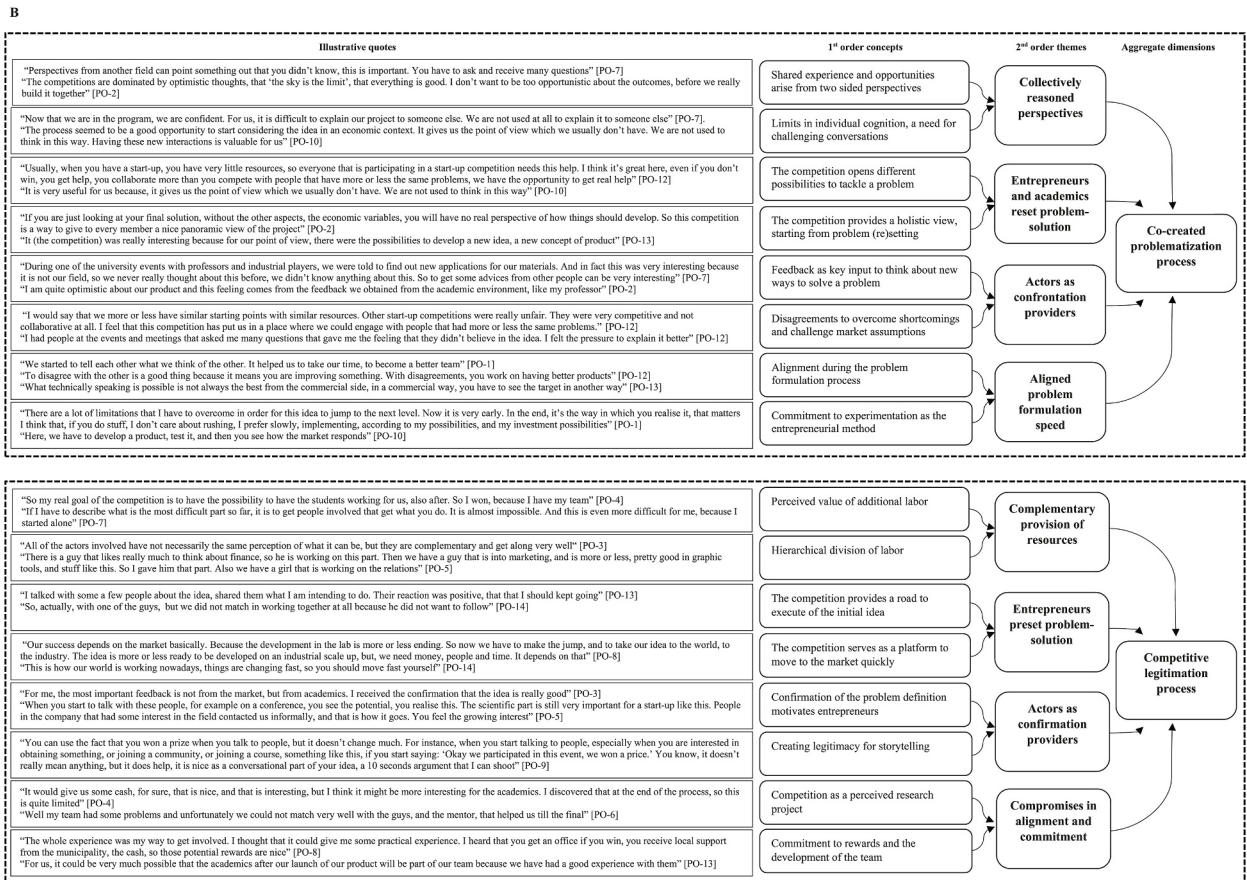
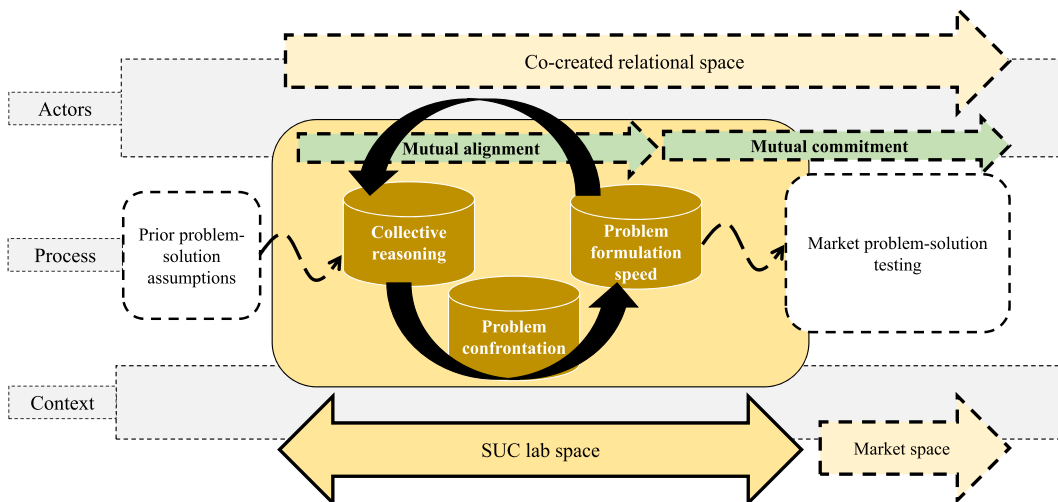


Fig. 1B. Extended representation of the data structure.



Model 1. A dynamic model of co-created problematization beyond the SUC space.

questioned between entrepreneurs and actors, rather than confirmed and justified, to come to new insights, as in the case of PO-11: "During our interactions, one volunteer [academic] criticized strongly our market approach. Then, during another session organized by the university with some industrial partners, we also had some interesting feedback. We didn't think about those points before." As this case illustrates, one of the actors, who took the role of the 'problematizer', unpacked a strongly held assumption, that was then reconsidered by the firm owners: The prior problem-solution was reset jointly.

Actors as confrontation providers - The actors in the problematized problem formulation process were included to take the role of problem confronters, i.e., preventing dialogues to follow dominant logic and pose alternative means of interpretation of the problem (Dorst and Cross, 2001; Foucault, 1985). “I don’t need someone to tell me it is so good, I need someone to criticize my ideas” [PO-11]. Entrepreneurs were open to having discussions, aligning, and committing with problem confronters because they perceived the added value to see alternative problem-solutions.

Aligned problem formulation speed - Crucially, the problematization speed found alignment through an experimental approach, in which rush-to-market solutions were avoided. “I don’t want to rush, just do stuff well, and I think that sooner or later, the potential of the idea will be recognized, with the help of the guys” [PO-7]. A slower, experimental process allowed participants space to reason collectively, for confrontation, and to go back and forth between problem-solution (McMahon, 2003). This generated a joint commitment to co-create different perspectives about the problem-solution evolution that were, *a priori*, not considered but aligned during the problem formulation process.

4.2. Competitive legitimization process

Complementary provision of resources - The other eight entrepreneurial ventures followed an alternative approach to problem formulation, a competitive one, with a clear objective to win the competition. Entrepreneurs perceived the added value of new actors to their project mainly as an opportunity to distribute labor, as PO-4 explains: “The collaboration goes well so far, they [the academics] work on stuff I’m usually too busy for.” Rather than co-creating, these entrepreneurs perceived the competition as a stage to distribute labour on their problem formulation process.

Entrepreneurs preset problem-solution - The competition assisted entrepreneurs as a stage to work on a preset problem-solution in order to move to the market rapidly. PO-5 said that: “I am giving these guys the opportunity to enter the company, to go from my idea to the market.” Collaborations between participants unaltered the problem-solution process because actors were perceived as gap-fillers to execute a predefined problem, leading to under-problematization of the problem-solution design (Alvesson and Sandberg, 2011; Dorst and Cross, 2001).

Actors as confirmation providers - The actors assisted as confirmation providers to serve entrepreneurs with legitimacy about validating their problem-solution design. Legitimacy, though storytelling, can be used to stand out from others (van Werven et al., 2015), as [PO-13] illustrates: “It is also really important for a start-up to have a collaboration with a university because it gives you much more visibility, an argument, a seal of importance, let’s say. So this was basically the reason to apply.” Instead of confronting their ideas with other actors, these entrepreneurs persisted with their original idea to compete against others. Here, we conceptualize the perceived value of this process as a ‘beauty contest SUC’: a structured process in which participants are mainly concerned with their observed image, unaffected by the interaction with academics and acting their way through their main goal with a preset idea to win the competition, and rush to the market (Goffman, 1959; Solomon et al., 2013).

Compromises in alignment and commitment - Alignment and commitment emerged as two crucial factors that either enabled or constrained the problematization process. “I wrote to the professors sometime after the competition, if there was any possibility to set up any partnership. I got no response” [PO-7]. When entrepreneurs focused on competitive legitimization, their problem-solution process unsuccessfully aligned with academics. As a consequence, academics concentrated on their research project, while entrepreneurs sought for confirmation that their idea was ready for the market. Thus, academic commitment lowered during the competition and ended when the SUC has ended.

5. Discussion, implications and conclusion

Researchers and practitioners find challenges in joint problem formulation (e.g. Bartunek and Rynes, 2014; Sharma and Bansal, 2020b; Sharma et al., 2022). In this study, we sought to answer how problem-solution design advances between entrepreneurs and academics in a SUC context. We problematize new venture competitions and advocate viewing SUCs as spaces to co-create answers to entrepreneurial problems (Grönroos, 2012), with problem-driven researchers playing a crucial role to reflect, reframe and design alternative problems-solution co-evolutions (Berglund et al., 2018; Dorst and Cross, 2001; Schön, 1984). Significant for the contribution of this study is the role of academics; their alignment in the problem formulation process, and their commitment to co-create problems and solutions. They may serve as confirmation providers to support credibility and legitimacy during a beauty contest (Luca and Zervas, 2016), or as ‘problematizers’ to jointly consider alternative interpretations of the problem definition and solution (Dewey, 1983; Foucault, 1985). Our results indicate experienced letdowns because academics lowered their commitment throughout the problematization process, thus, we problematize their position (Frank and Landström, 2016), during *and after* SUCs (Lange et al., 2007). Based on the co-created opportunities offered by the context of this study, two alternative processes emerged. While the competitive nature of start-up competitions is effective in stimulating participants to generate entrepreneurial intentions (Arranz et al., 2017; Brentnall et al., 2018), it may overstimulate participants to be primarily mindful of their present venture idea appearance (Solomon et al., 2013) with a focus to rush-to-the-market (Lieberman and Asaba, 2006). It also undermines the problem definition process with subjectivity about a narrow terrain of knowledge assumptions (Foucault, 1985; Klein and Foss, 2012), and insufficiently tested products and services (Hooshangi and Loewenstein, 2018). Our findings highlight a need to reconsider alternative competition models (Nabi et al., 2016), contributing to recent critique that competition-based entrepreneurship is too often organized as a linear process (Watson and McGowan, 2020). We argue for an action-based need to transform competition-based SUCs, toward a model where problematization acts as an instrument to create alignment and commitment between researchers and practitioners (Shepherd et al., 2021). In doing so, we contribute to problem-driven research by highlighting the crucial role for academics and practitioners to co-create problematization (Chen et al., 2022; Beckman, 2020; Berglund et al., 2018; Dorst and Cross, 2001; Hyytinen, 2021).

Model 1 portrays a dynamic representation of the data structure with three fundamental dimensions: the process, its actors and its context along time, and considers a structure prior, within, and after SUCs. The process represents a concentrated, collaborative lab space to co-create problem definitions and solutions through problematization between entrepreneurs and SUC actors. Prior problem-solution assumptions and the eventual testing phase go through a process of problem-solution reset; between collective reasoning, problem confrontation, and experimentation. Importantly, the dynamic model considers a co-creation context that goes beyond the SUC space. Mutual alignment and mutual commitment may operate as constraints, or as enablers, and allow researchers to implement a transition toward a co-created relational space. Thereby, the model highlights the crucial role for academics to align reflective efforts and maintain commitment with practitioners after SUCs end. This implies a need for entrepreneurship scholars to question their familiarity with SUC practice, to problematize their role in SUCs to reach practitioners, and to contextualize SUCs to understand opportunities and boundaries that generate new research insights. We specify the crucial role of mutual commitment and mutual alignment and their implications for future research.

#1 Mutual commitment: Mutual commitment is an essential ingredient for academics, who may show lower commitment during, and particularly after the competition, when the research project has ended. Entrepreneurs, conversely, may perceive competitions as detached from practice and undervalue its relevance, thus, also lowering their commitment during SUCs. While these factors are constraints for the problem-solution evolution (Bianchi and Verganti, 2021; Dorst and Cross, 2001), mechanisms that enable commitment for co-creation become increasingly important. We point to *intensifying* and *rewarding* to generate motivation to commit, maintain and, increase the perceived importance of collaborations during SUCs (Björklund et al., 2020; Kaciak and Welsh, 2018). Crucially here is the development of mechanisms that support and involve commitment (e.g. Pollack et al., 2016). Reflective design between entrepreneurs and academics is of particular use here. When the problematization process is co-created, entrepreneurs and academics may move jointly from tentative exploration to eventual commitment (Schön, 1983). Future research may explore how collaborations between academics and entrepreneurs may be intensified and rewarded to support joint commitment.

#2 Mutual alignment: Mutual commitment cannot prevail without mutual alignment of the problem-solution design process (Berglund, 2021). Alignment can be hindered, however. While adding new individuals for co-creation can broaden the horizon of problem definitions, entrepreneurs may experience this as complex (Li et al., 2013), or perceive a slower, experimental approach as an extra costly delay (Newbert et al., 2020; Shim and Davidsson, 2018). Here, we point to *clarification* and *evaluation* during the co-created problematization process. Generating a shared language, such as a “language of design” (Schön, 1983, p. 80) between academics and practitioners, is essential to co-create narratives that help refine, reshape, and bring clarity to “the problem space and the solution space” (Nambisan and Zahra, 2016, p. 71). When academics and entrepreneurs align problem finding through a design perspective, they produce more meaningful outcomes (Bianchi and Verganti, 2021). This may be a challenging process, since problematization may, at first glance, provoke different perspectives. The goal for academics and entrepreneurs however, is to embrace assumption challenging through collaboration to come to a shared problem and solution. Future research should focus on answering how practitioners and researchers can align this process jointly, and how new competition models may move toward more radical setups that encourage co-created problematization.

This study offers a critical perspective to re-design start-up competitions in the context of problem-driven research. By incorporating problematizing through a co-created process, we conclude that our model is a promising, but solely first step, toward a joint role for researchers and practitioners.

Credit author statement

Bob Bastian: Conceptualization, Methodology, data collection, data Formal analysis, Writing – original draft writing, reviewing and editing, Antonella Zucchella: Conceptualization, Methodology, data collection, data Formal analysis, Writing – original draft writing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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