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Market of Makers – How to Promote Corporate Entrepreneurship with an Effectuation Intervention

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Abstract. Corporate entrepreneurship is a challenge for organizations and their employees, for example because of structural rigidities or inertia. A promising approach of how to spark corporate entrepreneurship lies in effectuation research. Effectuation is a mode of action or decision-making logic that is based on empirical evidence from expert entrepreneurs. Following a Design Science Research (DSR) methodology, we develop and implement an effectuation intervention at a German multinational corporation. The intervention consists of two basic parts: The *Market of Makers*, an event that leads participants through the effectual process, and the *Speedboat Regatta*, a 3-months long project development phase. The intervention successfully generated 23 projects that identified opportunities for process innovation. This study contributes to design knowledge, theory and practice. First, we designed a blueprint for similar effectuation interventions and are able to formulate four design principles, which show how voluntariness, playfulness, and constraints enable effectuation and promote corporate entrepreneurship. Second, we contribute to corporate entrepreneurship theory by showing that effectuation is promising for approaching corporate entrepreneurship's theoretical and empirical problems. Third, we contribute to practice by demonstrating that interventions based on effectuation may shift employees towards leading and engaging with innovative projects.

Keywords: Corporate Entrepreneurship, Effectuation, Design Science.

1 Introduction

Firms are striving to have continuous competitive advantage. In order to achieve and maintain it, streams of literature, such *corporate entrepreneurship*, stress that firms need to engage in transformation, strategic renewal, or corporate venturing [1–3]. Corporate entrepreneurship is concerned with individuals who engage in these behaviors by pursuing opportunities within corporate structures. They are *corporate entrepreneurs*, who engage as enablers for innovation [2]. However, corporate efforts to engage their workforce in entrepreneurial behaviors are seen as challenging [1–3]. For example, corporations usually experience structural inertia, which makes engaging in exploration of new opportunities difficult. Moreover, when individuals within the organization conceptualize new ideas, pushing them toward implementation requires a process that aligns divergent interests across organizational boundaries [3].

In this paper, we study a practical representation of these theoretical and empirical problems. *A.Corp* is a German multinational corporation that mainly operates in industrial manufacturing. 11 months before the start of our intervention, a commercial function has started an innovation initiative, which 450 staff members joined. It offers digital technology trainings. However, these skills were applied seldomly and ideas were not sufficiently converted into real projects. These new skills were only applied by some, and if they were, only in parts, and only within one's immediate team. Cross-functional projects did not emerge. This led to the trainings not having sustainable impact while creating high costs and staff absences, and to frustration among participants. A solution to this problem is valuable, as it has the potential to create new processes, products, or services based on digital technologies that contribute to *A.Corp*'s profitability, as well as to improve motivation among employees. Moreover, a solution may create more robust, cross-functional project teams that drive digital innovation at *A.Corp*, and extend and strengthen intra-organizational networks.

The aim of this paper is to develop an intervention package to foster corporate entrepreneurship, consisting of the *Market of Makers* and the subsequent *Speedboat Regatta*. To do so, we followed a design science research (DSR) approach. We consider DSR as suitable, since we attempt to solve a practical problem by applying theoretical knowledge and by designing a useful artifact [4]. In this way, we contribute to understanding entrepreneurship as a design science [5–7]. Concretely, we follow the DSR methodology by Peffers et al. [8]. We formulated the problem (Activity 1) above. In the following section, we describe the objectives of a solution (Activity 2). We then report how the intervention was designed (Activity 3). We designed the *Market of Makers* based on effectuation, a decision-making logic that was observed with expert entrepreneurs [9, 10]. Effectuation is a promising approach of how to operationalize corporate entrepreneurship. It has been found that effectuation is a valid strategic orientation and may foster practiced creativity, research and development (R&D) output as well as R&D efficiency in corporate contexts [11–13]. Moreover, effectuation can be used to teach entrepreneurship [14]. Afterwards, we show how we applied the *Market of Makers* and hence demonstrate its usefulness at *A.Corp* (Activity 4). Subsequently, we evaluate how well the intervention solved the problem (Activity 5) and are able to show that 64 employees took active part in the intervention, generated 29 new ideas and successfully ran 23 projects over 18 weeks. Communication activities (Activity 6) include disseminating this study.

This study makes important contributions to design knowledge, theory and practice. First, we designed a blueprint that can guide similar corporate entrepreneurship interventions in firms. Moreover, we formulate four design principles. They show how voluntariness, playfulness, and constraints enable corporate entrepreneurship. Second, this paper makes a theoretical contribution to corporate entrepreneurship theory by showing that effectuation [10] is promising for tackling corporate entrepreneurship's theoretical and empirical problems [2, 3]. Moreover, we are able to deduct a question for further effectuation research. Third, this research contributes to practice by demonstrating that interventions based on effectuation may shift employees away from routine behavior towards entrepreneurial behavior that generates innovative, cross-functional projects. Looking forward, we plan to test and refine our intervention with other organizations.

2 Objectives of a Solution

We derive the objectives of a solution based on the corporate entrepreneurship and effectuation literature. We created a list of theoretical prescriptions that included 13 items and five sub-items (the effectuation principles [9]). Interestingly, the items contradict each other regarding access to resources. The corporate entrepreneurship literature sees available resources as an antecedent of entrepreneurial behavior [1, 2]. The effectuation literature highlights that expert entrepreneurs work with their individual resources rather than with an expected return [9, 10].

Following a pattern-matching technique [15], we compared the objectives with data that we collected at *A.Corp*. We organized two meetings with one senior and two middle managers of *A.Corp*. We took notes during these meetings and collected results on a shared digital whiteboard. The middle managers also gave a presentation with their objectives and ideas. Other documents include emails and written collaboration agreements. Moreover, we conducted two semi-structured interviews (30 minutes each) with the middle managers later in the process, which included questions about their objectives at the beginning. This variety of sources allows data triangulation [15]. If an objective was mentioned at least twice and matched a theoretical prescription, we considered it for our research. In the case of contradicting prescriptions regarding access to resources, our conversations with *A.Corp* managers made clear that they did not intend to spend an additional budget, which is why we formulated the O8 based on the effectuation literature. This process resulted in ten objectives, which are shown in Table 1.

Table 1. Performance objectives

Objective	Description
O1: Internal solution	Find a solution that leads to more innovation and strategic renewal inside the organization [2].
O2: Managerial support	Ensure that managers, especially top-level executives, show their willingness to promote entrepreneurial behavior [1].
O3: Attention	Create a stimulus that triggers the attention of employees and channels it towards non-routine activities [3].
O4: Motivation	Form an experience that is fun and that rewards participants, so that individual and corporate incentives align [1, 2].
O5: Opportunity identification	Invite individuals to identify opportunities [2] based on their interests and skills (i.e. individual means) [9].
O6: Project development	Develop projects that are based on effectual orientation [11, 12] and apply digital technologies.
O7: Cross-functional collaboration	Allow random interactions that lead to partnerships between different teams [9, 10]. Ensure that opportunities have a high likelihood to gain *"good currency"* [3].
O8: Resources	Ensure that participants draw on their slack time and resources to shape their projects [9, 10].
O9: Process innovation	Create new processes within a corporation that create a return on investment [2], specifically by digitalizing financial tasks.
O10: Culture	Create an organizational (sub-)culture that is supportive, open to transformation, risk-taking and learning from failure [1, 2].

3 Design and Development

Building on the objectives formulated in the previous section, we designed a corporate entrepreneurship intervention based on effectuation that consisted of a kick-off event called *Market of Makers* and subsequent 3-months *Speedboat Regatta*.

Predominantly, effectuation is conceptualized as a set of principles: means orientation (*who I am, what I know, whom I know*), affordable loss orientation (*"predetermines how much loss is affordable and focuses on experimenting with as many strategies as possible with the given limited means"*), strategic alliance orientation (*"emphasizes […] pre-commitments from stakeholders"*), contingency orientation (*"exploiting contingencies that ar[i]se unexpectedly over time"*), and control orientation (*"to the extent that we control the future, we do not need to predict it"*) [10]. Next to these principles, effectuation is considered as an iteration process (see Figure 1). This process starts with entrepreneurs assessing their means. Then, entrepreneurs begin doing what they can afford to do, seek potential partners, and gain partner commitments. In doing so, they create new means and new goals, which enable them to grow an effectual network over time that eventually may become a new market [16]. The underlying design of our intervention is for participants to go through several iterations of the effectuation process.

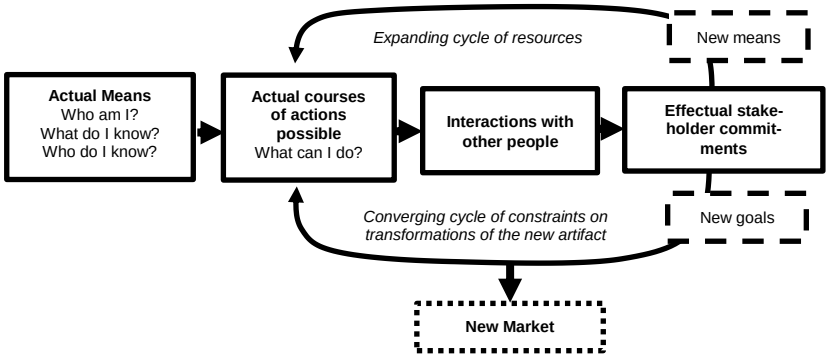

Fig. 1. - Effectuation as a process [16]

Firstly, we designed roles for the intervention (*captains*, *crew*, and *coaches*) (see Table 2). It is important to note that individuals might have more than one role.

Table 2. Roles

Group	**Description**
Captains	Launch and control small-scale projects (speedboats) autonomously (*control orientation*), interact with others and find committed crew members (*strategic alliance orientation*).
Crew members	Voluntarily contribute "*effectual stakeholder commitments"* and hence *new means* or *new goals* to speedboat(s).
Coaches	Keep in touch with the captains, support them in the *Captains Club*, and receive guidance from the design scientists.

Secondly, we designed an overarching process with multiple elements for the intervention (see Figure 2), mainly the *Market of Makers* and the *Speedboat Regatta*.

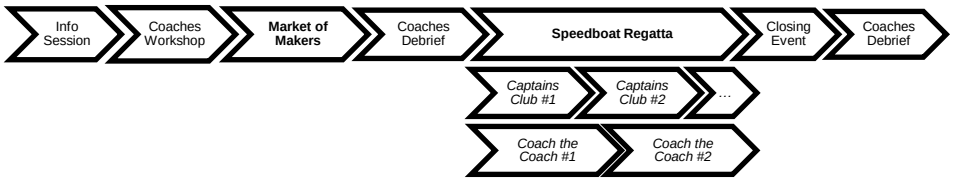

Fig. 2. Intervention process

3.1 Designing the Market of Makers

The intervention process starts with information sessions that are open to employees who are interested in joining the *Market of Makers* or in applying as coach. These sessions should provide basic information about the intervention. Subsequently, 15 coaches should be selected. They are then invited to a first 4-hour workshop that explains the background of the *Market of Makers* and introduces effectuation [10].

The *Market of Makers* is a four-hour event, in which the participants are guided through the effectual process [16]. Firstly, on the *Market of Makers*, a minimum of 50 participants are instructed that this event would make them develop, lead and engage with *speedboats*. We defined speedboats as small, autonomous projects or initiatives run by volunteering employees (*control orientation*) that do not require additional budget or time (*affordable loss orientation*). Secondly, the participants should be instructed reflect on their individual, *actual means*. Then, they should develop three ideas for what they could do with these means (*actual courses of actions possible*). Afterwards, they would be sent into randomly assigned breakout rooms (*contingency orientation*) in groups of two for five minutes, in which they should introduce their ideas (*interactions with other people*). Moreover, they should ask for what the other person might want to contribute, and hence collect *effectual stakeholder commitments* that may lead to *new means* or *new goals* (*strategic alliance orientation*). We planned for five of these dialogues. Subsequently, speedboats should be pre-selected and visualized on a digital whiteboard in randomly assigned groups of three. Moreover, the potential speedboat leads (*captains*) should call other employees who they think might be interested in their speedboats even if they are not participating in the *Market of Makers* (*strategic alliance orientation*). The *Market of Makers* results in short pitches of all developed speedboats, which are then sent off by the group, unless someone has a reasoned objection. The *Market of Makers* is afterwards debriefed with the coaches, which includes assigning a coach to each speedboat.

3.2 Designing the Speedboat Regatta

During the 3-months long *Speedboat Regatta*, the captains steer their speedboats autonomously (*control orientation*), but receive guidance from their coach when needed. Moreover, the coaches organize multiple *Captains Club* meetings, in which they facilitate exchange between the captains (*strategic alliance orientation*). The coaches are invited to two two-hour workshops with the design scientists, in which they reflect on the process. Finally, all participants as well as their managers are invited to a four-hour closing event in order to report and evaluate the outcomes. After the closing event, the coaches and design scientists debrief the whole intervention.

4 Demonstration

Here we demonstrate how our effectuation intervention solves the described problem at *A.Corp*, which is the first iteration of our effectuation intervention. *A.Corp* had started an innovation initiative. Seven months after this initiative started, they contacted us design scientists for the first time. The contact intensified and we agreed on conducting an effectuation intervention ten months after the start of the initiative. The final preparations and discussions with *A.Corp* took about a month and the whole intervention spanned five months. During this whole time, we collected data in the form of meeting recordings, meeting and interview notes, documents (emails, presentations, digital whiteboards, tables), and semi-structured interviews with nine captains (3.5 hours in total). We now report on the major milestones of the designed intervention process: the *Market of Makers* and coaches workshops and the *Speedboat Regatta* with its closing event and the subsequent coaches debrief. Notably, the intervention was conducted fully online due to the Covid-19 pandemic.

4.1 Applying the Market of Makers

In the coaches workshop that preceded the *Market of Makers*, the coaches reacted positively and were excited. The *Market of Makers* itself was attended by 71 participants. Finally, 29 speedboats were presented by 25 captains. 28 speedboats were sent off, one was discontinued due to a reasoned objection. Four speedboats did not have committed crew members after the *Market of Makers*, all others had already recruited one to five colleagues as crew (on average 2.3). The debrief workshop with the coaches started with a retrospect. They were positively surprised by the quantity and richness of ideas, the willingness to take action, and the diversity of participants. We then assigned coaches to speedboats. On average, each coach mentored 2.3 speedboats.

4.2 Applying the Speedboat Regatta

The *Speedboat Regatta* went on for 18 weeks. In total, 64 participants were actively involved in speedboats. 31 participants were involved in two or more speedboats (max. seven). The speedboats had an average size of 4.5 members.

In Table 3, we show how the regatta progressed and define the following stages: *In harbor*, and hence before a kick-off meeting, *ready* and hence right after kick-off, *on course* and hence actively working on the project, *in distress* and hence in need of external support, *back in harbor* and hence taking a break as well as *at destination* and hence having completed the project or initiative. 23 speedboats arrived at a destination and were able to present their outcomes at the closing event. Two speedboats remained in harbor the whole time and were hence not kicked off and actively worked on. No captain reported that their speedboat was in distress at any point in time. Two speedboats returned to the harbor for a little while to take a break.

Table 3. *Speedboat Regatta* overview

Week	**W0**	**W3**	**W6**	**W9**	**W11**	**W14**	**W16**	**W18**
In harbor	29	9	3	3	2	2	2	2
Ready	0	9	10	4	1	0	0	0
On course	0	9	11	15	20	20	17	0
In distress	0	0	0	0	0	0	0	0
Back in harbor	0	0	1	2	0	0	0	0
At destination	0	0	0	1	2	3	6	23
Total	*29*	*27*	*25*	*25*	*25*	*25*	*25*	*25*

The *Closing Event* was attended by 82 participants and each captain pitched their speedboat. *A.Corp* senior managers gave awards to three that they found particularly novel, collaborative and lean. Finally, *A.Corp* senior managers gave an outlook on how the regatta continues. In our subsequent debrief with the coaches, we collected feedback for the whole intervention process and sharpened the regatta continuation.

5 Evaluation

Our evaluation of the intervention at *A.Corp* are based on quantitative data on the *Speedboat Regatta* as presented above (such as Table 3), documented feedback from all workshops with the coaches, a feedback form filled by *Market of Makers* participants, documentation of *Captains Club* meetings, pitches and impressions shared during the *Closing Event*, as well as interviews with *A.Corp* managers and with nine captains. The interviews followed a semi-structured approach and enquired about the general impression of the *Market of Makers* and the *Speedboat Regatta*, not actively about specific performance objectives. The diversity of data hence allowed for data triangulation [15]. Following a pattern-matching strategy [15], we collected statements and impressions per performance objective as individual data points, counted repetitions, and compared the strongest signals to the objectives set out in Table 2. We show our results in Table 4.

Table 4. Evaluation of performance objectives

Objective	Evaluation
O1: Internal solution	With the *Market of Makers* and *Speedboat Regatta* we designed a purely internal solution that is based on effectuation.
O2: Managerial support	The intervention was initiated by senior managers of *A.Corp*. They send out invitation emails, were present at both the *Market of Makers* and the closing event, appreciated the participants publicly and gave rewards (7 data points).
O3: Attention	The *Market of Makers* triggered 64 employees to engage in speedboats. *A.Corp* only provided limited information before, which created positive suspense for some (2 data points), but also frustration, uncertainty and confusion (5 data points).
O4: Motivation	The *Market of Makers* was perceived as having a dynamic, lively and open atmosphere (6 data points) that spurred enthusiasm and creativity (7 data points). The captains and crew were perceived as highly motivated throughout (11 data points).
O5: Opportunity identification	The participants perceived identifying opportunities and generating ideas during *Market of Makers* as easy (3 data points). The number of ideas developed was very high, since *A.Corp* had expected rather 10 than 29 speedboats (3 data points).
O6: Project development	23 speedboats developed during the *Market of Makers* (=79.3%) were based on digital technologies and process innovation. However, a lot of speedboats struggled with maintaining their "speedboat character" and engaged in very detailed discussions (7 data points).
O7: Cross-functional collaboration	The *Market of Makers* allowed participants to meet new people and widen their network (14 data points). The participants highlighted how happy they were with uncomplicated cross-functional exchange during the intervention (15 data points). The speedboats that arrived at a destination on average brought together 3 different corporate functions. Partly, the collaboration between captains and coaches during the *Speedboat Regatta* was perceived as good (6 data points), partly as difficult (3 data points). Some captains did not really feel like they need the coaches (4 data points). The captain/coach relationship was not clear enough (5 data points). The coaches expressed that they turned out to have rather an organizational than a coaching role (6 data points).
O8: Resources	From the beginning, we and *A.Corp* senior managers communicated that there is no additional financial or time budget for the intervention (3 data points). While a lack of a financial budget was not further mentioned by participants, they expressed that finding time for working on their speedboat next to the day-to-day operations is difficult (9 data points).
O9: Process innovation	18 speedboats that arrived at a destination (=78.3%) applied new digital technologies and based new processes on them. Their return on investment cannot be evaluated yet.
O10: Culture	The intervention created a sub-culture that is based on voluntary commitments (6 data points), eye-level collaboration (4 data points) and a supportive community (3 data points).

Regarding O1, we conclude that we have successfully designed an internal solution for fostering innovation [2]. The support by top-level executives was excellent, which enabled the intervention to be effective (O2) [1]. For future rounds of the intervention, we will develop a list of managerial best-practices based on the *A.Corp* case, which we will base our conversations with future partner organizations on.

As set out in O3, we created a stimulus that triggers the attention of employees. We successfully had 64 participants engage with non-routine activities [3]. However, for the next iteration of the intervention, we will make sure that extensive information about the intervention are widely available. In O4, we expressed that we want to create a fun, rewarding experience [1, 2]. We conclude that we achieved this objective.

Regarding O5, we conclude that we were very successful in getting individuals to identify opportunities [2] based on their means [9]. Based on this, project development (O6) based on effectuation [11, 12] was very successful too. Moreover, the vast majority applied digital technologies, which *A.Corp* strived for. In future iterations of the intervention, we will join the *Captains Club* meetings in order to keep working with the captains directly, for example on how to keep their speedboats lean.

With regards to O7, we show that designing the *Market of Makers* with random interactions leads to partnerships between different teams [9, 10]. Having coaches to support creating organizational traction, however, was not sufficiently effective. In future interventions, we will fulfill the coaching role ourselves. Regarding O8, we conclude that participants successfully drew on their slack time and resources.

With regards to O9, we show that our intervention successfully led to speedboats that create new processes within a corporation [2]. By digitalizing financial tasks, they should create a return on investment. Finally, we conclude that the intervention created a voluntary, collaborative and supportive sub-culture [1, 2]. For future interventions, we would like to focus more on the other aspects expressed in O10, namely openness to transformation, risk-taking and learning from failure, for example by delivering specific training elements around these topics.

6 Discussion and Conclusion

Although many organizations try to engage their employees in corporate entrepreneurship, they often suffer from a lack of new initiatives. We designed an intervention called *Market of Makers* and *Speedboat Regatta* based on effectuation [9]. We demonstrated its use at *A.Corp*, a German multinational firm, which led to 29 new project ideas, of which 23 came to a successful endpoint after 18 weeks. 64 employees took active part in these projects. They generated a high number of ideas which led to cross-functional projects based on digital technologies and process innovation. Keeping these projects small and not reverting to corporate practices was perceived as difficult, as well as making time for the projects. The project leads (*captains*) received support from specially trained coaches. However, difficulties regarding the captain/coach relationship and understanding of roles arose. Intra-organizational networks were widened and strengthened, processes innovations were developed, and a sub-culture that is open to transformation emerged.

This design science project is subject to two main limitations. Firstly, certain elements of the problem and the demonstration are specific to *A.Corp*, which means that they are not fully generalizable. Secondly, the intervention has only been applied at *A.Corp*, which is why we are not yet able to assess its usefulness in other settings.

This paper makes important contributions to design knowledge, theory, and practice [17]. First, it contributes to the body of design knowledge on corporate entrepreneurship in the following ways. We designed a blueprint of a corporate entrepreneurship intervention, i.e. the concept of the *Market of Makers* and *Speedboat Regatta*. Specifically, this blueprint contains role descriptions, an intervention process and workshop content. It can be a useful guide for corporate entrepreneurship interventions in other firms. Additionally, we developed a set of four design principles [18]. They explain how and why the implementers of our intervention achieve increased entrepreneurial behavior for managers and employees in large corporations:

1. Employ the principle of voluntariness and allow employees to decide what they do, based on what they are interested in. This raises their control-orientation [10]. Hence, voluntariness boosts individual control, which then motivates employees to act as corporate entrepreneurs.
2. Guide participants through the effectuation process [16] in an interactive event that involves a high degree of playfulness. In this way, employees practice effectuation even though it may be unusual behavior for them. Hence, playfulness sparks deliberate practice which leads employees to engage in corporate entrepreneurship.
3. Do not provide effectual projects and initiatives with a financial/time budget, and force the participants to work under different prerequisites than usual corporate project management. These constraints continuously trigger employees to work with their means base and stick to the effectuation process [10, 16]. Hence, financial and time constraints make employees orient towards their means, which increases corporate entrepreneurship by sparking a new iteration of the effectuation process.
4. Make event participants interact with each other first in small groups. This reduces the number of potential stakeholders significantly. In this way, the barrier of asking others for stakeholder commitments [16] is lowered. Hence, constraining the numbers of participants enables employees to ask for stakeholder commitments, which then lead to contributions to an idea and hence corporate entrepreneurship.

These design principles contribute to corporate entrepreneurship theory by showing how introducing voluntariness and playfulness while imposing constraints makes effectuation in corporate contexts work. This is interesting for corporate entrepreneurship theory, which sees control as an outcome of corporate entrepreneurship [1]. In our study, we show that control-orientation might be an antecedent of it. Second, to our knowledge, the merits of practicing entrepreneurial behaviors have not yet been studied in corporate entrepreneurship literature. Third, corporate entrepreneurship scholars rather see available resources as an antecedent of entrepreneurial behavior and hence not as something that should be denied [1]. In contrast, our study indicates that less may be more. Lastly, corporate entrepreneurship scholars highlight that entrepreneurial behaviors are more successful when they are *"grounded in carefully*

established, non-imitable, and sophisticated networks" [1]. Our study shows that in order for such a sophisticated network to come about, it might be helpful to first constrain the number of potential partners. All in all, we make a theoretical contribution to corporate entrepreneurship theory by showing that effectuation [10] is promising in order to solve the theoretical and empirical problems that this literature faces [2, 3].

Moreover, we our design work paves the path towards future confirmatory effectuation research. In this regard, it would be very interesting to apply experimental approaches to capture how successfully an effectuation intervention leads to new ideas and innovative projects in a corporate setting. This would add to a recent experimental study that showed that an entrepreneurship training based on effectuation for small-business owners led to a greater increase of business opportunities identified and pursued [19].

The contribution of this research for practice is that interventions based on effectuation may shift employees from routine behavior to entrepreneurial behavior; increase employee motivation; have the potential to generate a lot of ideas that employees actively turn into innovative, cross-functional projects; may widen and strengthen intra-organizational networks; and may create a sub-culture that is more open to organizational transformation. Looking forward, we plan to design a more general version of this intervention that will then be tested and refined with other organizations.

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