

Intrapreneurship in the Healthcare Sector: Stimulating Idea Generation through an Inspiration Wall

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Abstract

Certain structures in the healthcare system hinder the innovative environment for employees. However, innovations are crucial to enable the best possible treatment of patients and to mitigate the increasing cost pressure. Therefore, we are investigating how the quantity and quality of employee-driven ideas can be enhanced in hospitals. Through DSR research, we are developing an incentive mechanism that can be employed in the hospital setting. It is based on the theory of nudging and aims to subtly motivate employees to submit more innovative ideas. The results demonstrate that (1) nudging for intrapreneurship in the healthcare sector is promising, (2) besides the incentive mechanism, organizational enablers are also important for intrapreneurship, and (3) an inspiration wall may combat the challenges present at hospitals hindering intrapreneurship.

Keywords: Intrapreneurship, Employee-Driven Innovation, Idea Generation, Healthcare, Nudging

1. Introduction

For organizations in the healthcare sector such as hospitals, innovations are crucial (Lemström & Laaksonen, 2012). Factors such as rising healthcare costs, an aging population with complex needs, and increasing chronic illnesses demand innovations to counterbalance the mounting cost pressure (Melder et al., 2018). A significant source of innovation is the employees themselves (Rigtering et al., 2019). Their critical questioning of daily processes, procedures, or products can lead to the generation of new ideas from identified problems (Park et al., 2014). When employees develop such ideas and are encouraged to share them with the organization, it is referred to as intrapreneurship (Blanka, 2019). However, in the healthcare sector, certain structures hinder the innovative environment for employees (Phillips & Garman, 2006). Examples include externally controlled resource allocation, the absolute priority of patient care, or clearly

regulated responsibilities of employees (Phillips & Garman, 2006). Particularly in this context, it is important to actively motivate employees for intrapreneurship. Surprisingly, there are not many studies that address the topic of intrapreneurship in healthcare (Phillips & Garman, 2006). Therefore, our goal is to fill this gap and explore how employees in a hospital can be motivated for intrapreneurship. The research question is:

How can the quantity and quality of innovative ideas from hospital employees be increased?

To answer the research question, we adopted the Design Science Research (DSR) approach consisting of a structured literature review (SLR) and empirical interviews. This paper provides two contributions to research and practice: First, a comprehensive overview of incentive mechanisms for intrapreneurship is given. Second, an incentive mechanism specifically designed for hospitals based on the nudging theory is developed.

The paper is structured as follows. The theoretical foundations demonstrate a research gap in the field of intrapreneurship in healthcare. We then explain the chosen research design, which outlines how both a SLR and empirical investigation contributed to the development of the incentive mechanism. Subsequently, we present the results of the two research contributions. Based on this, we discuss the findings in the context of the current literature. Finally, we provide a brief summary of the study.

2. Theoretical Background

2.1. Intrapreneurship

Intrapreneurship was first mentioned by Pinchot (1985) in the paper "*Intrapreneuring: Why you don't have to leave the corporation to become an entrepreneur.*" It is a combination of the terms "*intra-corporate*" (within the corporation) and "*entrepreneurship*" and means "*entrepreneurship within the organization*"

(Antoncic & Hisrich, 2003). According to the definition provided by Neessen et al. (2019, p. 551), intrapreneurship is "*a process whereby employee(s) recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization.*" Intrapreneurship is thus a bottom-up process that places individual employees at the center (Antoncic & Hisrich, 2003). Consequently, new ideas can emerge for the organization. Additional positive effects include stimulating the creative potential of employees (Ristovska et al., 2021) and the acquisition of additional competencies (Neessen et al., 2019). Generally, the intrapreneurship process is structured along five steps, i.e., idea generation, screening, experimentation, commercialization, implementation. For the sake of this paper, we focus on the first phase of the intrapreneurship process, namely the idea generation phase, where employees are incentivized to submit innovative ideas.

2.2. Intrapreneurship and Motivation

Whether employees are willing to act as intrapreneurs or not depends on various factors (Hornsby et al., 2002). These factors include organizational aspects such as corporate culture or supervisor support, as well as individual factors such as employee motivation (Hornsby et al., 2002; Neessen et al., 2019). Employee motivation forms the foundation of one's own innovation capability (Ritala et al., 2019). Therefore, it is important to understand the underlying motivation in order to encourage employees to develop their own innovations (Rigtering et al., 2019). A distinction should be made between intrinsic and extrinsic motivation (de Villiers-Scheepers, 2011). Intrinsically motivated employees are driven by their own convictions and beliefs (Liu et al., 2016). On the other hand, extrinsically motivated employees are driven by achieving a desired outcome that may include rewards (Ritala et al., 2019). Depending on how employees are motivated within an organization, different incentives for intrapreneurship become relevant. We define the different types of incentives (e.g., rewards, recognition, or compensation; Milne, 2007) as *incentive mechanisms*.

2.3. Intrapreneurship in Hospitals

There has been limited research on intrapreneurship in healthcare settings (Lemström & Laaksonen, 2012; Marques et al., 2019). Consequently, there are few studies on how employees in hospitals can be motivated for intrapreneurship. One reason for this is that

different industry logics within the healthcare sector tend to be inherently contradictory to intrapreneurship (Lemström & Laaksonen, 2012). For example, employees in healthcare have a predominantly passive role in organizational development due to the overarching priority of patient care (Lemström & Laaksonen, 2012; Phillips & Garman, 2006). However, an active role is necessary to submit their own ideas. Other reasons include the hierarchical distinction between physicians and nurses or the predominantly externally controlled resource allocation (Lemström & Laaksonen, 2012).

Despite these barriers, intrapreneurship is considered highly promising in hospitals (Marques et al., 2019). Employee-generated innovations can enhance patient care and foster an innovative environment within the hospital (Marques et al., 2019). Therefore, this research gap is being addressed in this paper, through conducting a study at the University Hospital Basel in Switzerland. Numerous studies have already investigated incentive mechanisms for intrapreneurship (e.g., Hornsby et al., 2002; Kuratko et al., 2005). However, none of them specifically focus on the application within a hospital context. We hypothesize that special incentive mechanisms are required in a hospital setting due to the aforementioned industry logics (Lemström & Laaksonen, 2012) and the predominantly intrinsic motivation of healthcare professionals (Berdud et al., 2016). Based on this, our study aims to develop a new incentive mechanism specifically tailored for hospitals.

2.4. Nudging

In addition to traditional incentive mechanisms, the theory of nudging offers an alternative approach. Originating from behavioral economics, nudging assumes that people make biased decisions (Kahneman & Tversky, 1982). Nudges are subtle design elements that influence human behavior in a predictable way by leveraging cognitive limitations (Thaler & Sunstein, 2008). The intention behind nudging is to guide individuals toward the best possible decision for them (Hansen et al., 2016; Sunstein, 2018). This is achieved by influencing the different choice options or the choice architecture. Various types of nudges exist, and the most important ones are summarized briefly in Table 1 (Stieler & Henike, 2022; Sunstein, 2014; Szasz et al., 2018). A simple example of nudges in everyday life is the depiction of a fly in urinals. It prompts men to look at the image, thereby reducing the level of restroom contamination (Thaler & Sunstein, 2008). In contrast to regulatory enforcement or the implementation of financial incentives (Hansen et al., 2016), nudges offer a simpler and more cost-effective way to

influence people's behavior (Haki et al., 2023). Nudges have already been employed in the field of intrapreneurship to motivate employees to generate their own innovative ideas (Stieler & Henike, 2022). We posit that this approach holds promise in the healthcare sector as well.

Table 1. Overview of nudging types.

Simplification	Simplified presentation of complex content (e.g., using numbers instead of text)
Marginalization	Reduction of effort for the desired choice option (e.g., placing vegetarian dishes first)
Disclosure	Disclosure of as much information as possible (e.g., disclosing CO2 emissions on food products)
Framing	Presentation of information (e.g., warning signals on cigarette packaging)
Reminder	Recalling desired options (e.g., push notification from an app)
Examples	Utilizing social norms as examples to elicit desired behavior (e.g., slogan "9 out of 10 guests enjoy the hotel")

3. Research Design

To address the before-mentioned research question, a DSR approach is adopted. DSR is a problem-centered research approach in which an artifact is developed as a solution to an observable problem (Peffer et al., 2007). The artifact aims to address an identified problem and provide value to both theory and practice (Hevner, 2007; Peffer et al., 2007). Originally developed in the field of information systems by Hevner et al. (2004), the DSR approach is now applied in various research domains (Blanka, 2019). DSR consists of three cycles (see Figure 1): the design cycle involves the artifact development, the relevance cycle provides requirements and problem relevance, and the rigor cycle utilizes fundamental theories as a basis and incorporates insights back into the literature (Hevner, 2007). The DSR approach was chosen because the research problem is relevant in practice and there is currently no suitable incentive mechanism for intrapreneurship in the hospital context (Hevner, 2007). Furthermore, it was deemed meaningful to adopt an approach that integrates theory and practice, as knowledge was drawn from both domains. Figure 1 illustrates the methodologies employed in both spheres. In order to extract existing mechanisms from literature, a SLR was conducted. Then, empirical interviews were held in order to understand the specificities of the healthcare sector and analyze specific barriers to

the quantity and quality of intrapreneurship ideas in hospitals. Last, the artifact to increase the quality and quantity of innovative ideas in hospitals is developed.

As a case organization for the environment sphere, we used insides from the University Hospital Basel (Switzerland). The hospital is one of five University clinics in Switzerland and places great emphasis on innovation with its own innovation management team. It has a total of around 8'000 employees and has been entrepreneurially independent since 2012. The University Hospital Basel has implemented its own intrapreneurship program (in year 2019). However, it faces the challenge of receiving an adequate number of submitted ideas.

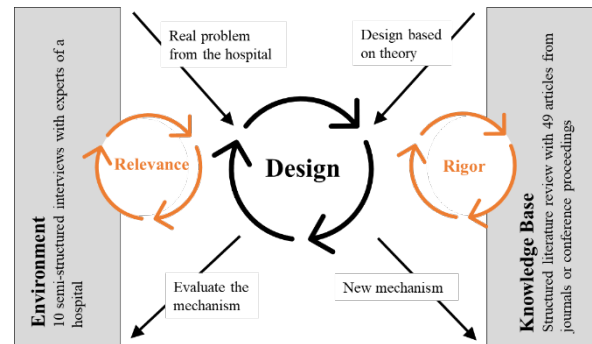


Figure 1. Research Design.

3.2. Literature Review

The objective of the SLR was to extract incentive mechanisms for increasing the quantity and improving the quality of employees' innovations from existent literature.

3.2.1. Data Collection. The literature search was conducted in five steps: selection of databases, definition of search terms, filtering articles based on abstracts, forward and backward searches, and verification of journal rankings (Vom Brocke et al., 2009; Webster & Watson, 2002). The four standard databases for this topic, Web of Science, ProQuest, EBSCOhost, and Science Direct, were used. The search term string was as follows: (intrapreneur* OR "corporate entrepreneur*" OR "employee-driven innovation" OR "corporate innovation" OR "idea management" OR "idea contribution" OR "idea generation") AND (motivat* OR incentiv* OR nudg* OR fram*) AND (increas* OR promot* OR fost* OR enabl* OR empower*) AND (employee* OR individ-ual*). The search criteria were defined such that the search string must appear in the title, abstract, or keywords of the article. Only articles from 2002 to 2023 from scholarly journals or conference proceedings were considered

(Vom Brocke et al., 2009). The search yielded a total of 479 results. In the analysis of abstracts, articles focusing on (1) personal characteristics of intrapreneurship, (2) mechanisms for idea implementation or execution, or (3) a general framework for intrapreneurship are excluded. Articles from journals that are rated A, B, or C according to the VHB-Jourqual3 list, or those with a different thematic background not included in the list, are included. Conference proceedings related to innovation, entrepreneurship, or information systems are also considered. The final sample for the literature search includes 49 articles.

3.2.2. Data Analysis. All articles from the final sample went through a full-text analysis. To synthesize the articles, a concept matrix is created following Webster & Watson (2002). An Excel spreadsheet is used, listing all articles in the rows, and the individual concepts, in this case incentive mechanisms, in the columns. During the full-text analysis, the concept matrix indicates which mechanism appears in each article. This provides an overview of the frequency of each mechanism and allows for comparison between articles.

3.3. Interviews

The interviews serve the purpose of exploring and understanding the barriers to intrapreneurship (i.e., why employee ideas are low in quantity and quality) specifically in the hospital context, in order to subsequently develop incentive mechanisms to increase the quality and quantity of ideas submitted from employees in the hospital context.

3.3.1. Data Collection. A total of 10 semi-structured expert interviews were conducted for the empirical analysis (see Table 2). This interview format ensures high flexibility, as an interview guide is followed, and additional clarifications can be sought from the interviewee (Döring & Bortz, 2016, p. 239). All interviews were conducted in the interviewees' native language. Employees from various professional groups within the hospital were intentionally selected for the interviews to gain different perspectives. Interviews were conducted until information saturation was reached.

Table 2. Interview partners.

ID	Job description	Min.	Internal
A1	Innovation Manager	25	Yes
A2	Nursing Expert	30	Yes
A3	Employer Branding	25	Yes
A4	Innovation Manager	18	Yes
A5	Nudging Expert	25	No

A6	Therapist	23	Yes
A7	Nurse	22	Yes
A8	Head Physician	30	Yes
A9	Intrapreneurship Expert	33	No
A10	Head Physician	41	Yes

3.3.2. Data Analysis. The technique of coding was applied for data analysis (Döring & Bortz, 2016, p. 330). This process was carried out using the software Atlas.ti. Specific segments of text from the transcripts were assigned to relevant codes and subsequently categorized into code groups. A total of 111 codes were identified and classified into code groups. First, we extracted the codes according to categories like obstacles, challenges, or suggestions. While coding the interviews, we realized that a categorization according to the thematic focus would be more promising. We therefore build four code groups based on the most mentioned topics in all interviews.

3.4. Limitations

Although a thorough process was selected, limitations to the methodology could be identified. Firstly, the DSR research was conducted with only one industry partner. This was necessary as nudges need to be tailored to the specific context (Rieder et al., 2020), but it limits the generalizability of the findings. Secondly, the questionnaire varied among the interview participants. While this allowed for more in-depth exploration, it limited the comparability of the interview results. Thirdly, the study only extends until the initial evaluation stage. A conclusive assessment of the artifact's effectiveness can only be made after its successful implementation. However, the artifact has not been implemented yet. This could provide suggestions for future research endeavors, where future researchers implement the suggested incentive mechanism and evaluate its effectiveness in different contexts.

4. Results

4.1. Mechanisms found in Literature

All identified mechanisms can be broadly categorized into two groups: (1) *enablers* form the foundation for allowing intrapreneurship in the first place, while (2) *incentive mechanisms* provide additional incentives to motivate employees to participate in submitting ideas for their organization. In the following, first the enablers are presented, then the identified incentive mechanisms are explicated. Important to note is that the identified enablers and incentive mechanisms are not specifically extracted from the hospital

context. Although we acknowledge this limitation, we believe that these can form the basis for the further artifact development in the University Hospital Basel. In total, 7 enablers (Section 4.1.1), and 8 incentive mechanisms (Section 4.1.2) could be identified. Based on this we developed a matrix with all 15 mechanisms. Since the enablers form the basis for enabling intrapreneurship within an organization, they are all placed below the matrix. The incentive mechanism can be further divided based on whether they increase the quantity or improve the quality of innovation ideas (x-axis). The y-axis shows how high the improvement for the organization will be. Figure 2 illustrates the matrix.

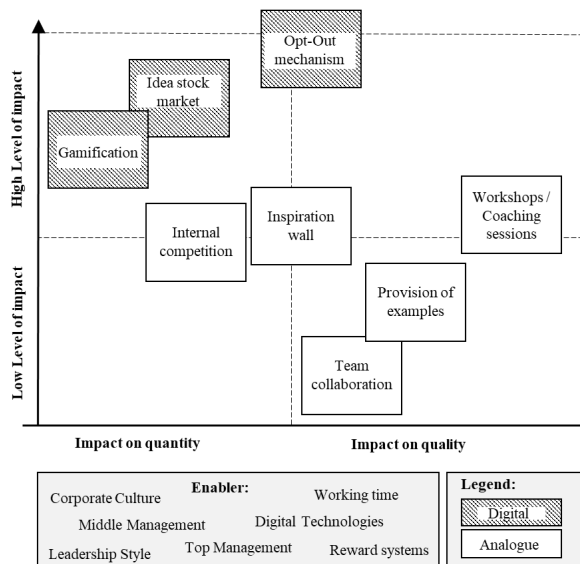


Figure 2. Matrix of Mechanisms.

4.1.1. Enabler. *Corporate culture* is described as a central enabler to encourage employees to share their ideas with the organization (Menzel et al., 2007) and engage with the organization (Park et al., 2014). Additional elements of this include fostering a culture that embraces mistakes (Hornsby et al., 2002), reducing hierarchies (Menzel et al., 2007), and decentralizing decision-making (Klarner et al., 2013).

The top management of an organization is responsible for fostering the appropriate corporate culture (Hornsby et al., 2002). It is their role to assign sufficient importance to the topic of intrapreneurship (Menzel et al., 2007) and convey to employees the sense that their ideas are valued (Tseng & Tseng, 2019).

Another responsibility of top management is to delegate authority and responsibility to *middle management* (Kuratko et al., 2005). Several authors describe the role of middle management as the most crucial factor in fostering employees' innovative ideas

(e.g., Hornsby et al., 2002; Kuratko et al., 2005). Middle management serves as a bridge between the strategic level of top management and the day-to-day business operations of employees (Hornsby et al., 2002).

The *leadership style* of middle management is also crucial and influences employees' intrapreneurial behavior (Moriano et al., 2014). The transformational leadership style, which inspires employees and sets common goals, supports the previously described organizational culture and thus encourages the generation of innovative ideas (Gerards et al., 2021; Moriano et al., 2014). Another study found that positive emotions and trust from supervisors also promote employees' motivation and willingness to share their ideas (Brundin et al., 2008). Emotional signals are perceived as more sincere than material incentives such as rewards (Hornsby et al., 2002; Marques et al., 2019).

Nevertheless, numerous studies have shown that different types of *reward systems* are also important motivators (see e.g., Hornsby et al., 2002). Both monetary and non-monetary rewards, such as social recognition or flexible working hours, appear to be effective (Kirby, 2006). Studies have indicated a preference for non-monetary rewards (de Villiers-Scheepers, 2011).

To generate ideas, an employee needs time and energy (Hornsby et al., 2002). The allocation of *working time* for intrapreneurial activities represents another enabling factor. Often, employees are already occupied with their regular tasks and do not have the time to consciously engage in idea generation (Reibenspiess et al., 2019).

The use of *digital technologies* enables new ways of organizing the intrapreneurship process (Reibenspiess et al., 2019). This allows for the reduction of individual barriers to idea submission (Stieler & Henike, 2022), facilitates communication and collaboration among employees (Gerards et al., 2021), and decreases perceived workload (Petzsche et al., 2022).

4.1.2. Incentive Mechanisms. The mechanism *provision of examples* refers to the act of illustrating former innovation ideas as examples (Rigtering et al., 2019). In their study, the authors found that such examples improved the quality of the submitted ideas.

Typically, idea submission is organized as an opt-in approach, where employees must actively register to participate. In *opt-out mechanisms*, on the other hand, all employees are automatically registered as idea contributors and must actively opt out if they do not wish to submit an idea (Rigtering et al., 2019). This mechanism results in the social desirability of idea submission and establishes it as the default norm.

Another incentive mechanism is *team collaboration*. Social work organizations that encourage continuous exchange among colleagues promote creativity

and, consequently, the idea generation of employees (Mattarelli et al., 2022).

Employees often lack the necessary inspiration to generate ideas. One solution is to establish an *inspiration wall* within the organization, where images, articles, or sketches of innovative technologies and startups are displayed. By regularly passing by, employees can draw inspiration and stimulate their creative thinking (Stieler & Henike, 2022).

Creative thinking is a skill that not every employee has experienced in their education or professional experience. In *workshops or coaching sessions*, the ability to generate ideas, creativity, or outside-the-box thinking can be cultivated (Menzel et al., 2007; Sannomiya & Yamaguchi, 2016). Participants in the study demonstrated that after completing the workshop, they were motivated to be creative and had less fear of sharing their ideas in a group setting (Sannomiya & Yamaguchi, 2016).

To encourage employees to generate ideas among themselves, *internal competitions* can be implemented (Nittala et al., 2022). Such a format enhances employees' extrinsic motivation as they compete against each other and can measure their performance.

Gamification refers to the incorporation of game elements in a non-game context (Suh, 2017). These elements can also enhance employees' motivation. It has been demonstrated that such elements, including in the context of intrapreneurship, have a positive impact on employees' engagement (Suh, 2017).

Also attributed to gamification is the *idea stock market*, which was developed in a study conducted in Portugal (Walton et al., 2016). Employees can submit ideas on the digital ideation platform while simultaneously acting as investors for other ideas. The engagement level was increased due to the fun factor associated with this approach.

4.2. Barriers to Intrapreneurship in the Hospital Context

Based on the empirical investigation (expert interviews), a number of barriers specifically present in the hospital context could be identified. These barriers, that hinder the quality and quantity of ideas being submitted by hospital employees, are explained in the following (Section 4.2.1 – 4.2.4).

4.2.1. Exhaustion and Time Pressure. The COVID-19 pandemic has had severe consequences on the healthcare system, leaving a significant impact on medical personnel (A1). The exhaustion among employees is still palpable, and the workload leaves little room for creative ideas (A1, A2). The persistent short-

age of skilled professionals further exacerbates the situation (A1). Under such circumstances, there is limited time and energy available for additional tasks such as submitting innovative ideas (A2). A nurse states, "*It's an additional effort that one doesn't willingly take on*" (A7).

4.2.2. Lack of Expertise in Digitalization. Developing innovative ideas requires a certain level of technical know-how and creative skills. For some healthcare professionals, IT remains a black box (A2). Unfortunately, digitalization is not part of the curriculum in both medical and nursing education (A1, A7). The same applies to other necessary skills such as presenting, developing a project plan, or pitching the idea to sponsors (A7). The lack of knowledge in these areas leads to apprehension and uncertainty about the idea's innovativeness and one's own abilities (A7). Additionally, there is often a lack of fascination and interest in digital topics, which diminishes the motivation to engage with an innovative idea (A3).

4.2.3. Lack of Priority. It is estimated that only about 25-50% of employees are even aware of the intrapreneurship program in the hospital (A1). Many may have heard of it, but only a few truly understand what it entails (A3, A7). As described by a therapist, "*We were aware of the program, but it didn't align with our daily routine*" (A6). Due to the issues described in section 4.2.1., the topic of innovation lacks priority and often does not appear on the agenda of the medical staff (A10). Consequently, it is not surprising that employees do not think about innovations and new ideas in their day-to-day work (A9).

4.2.4. Lack of Business Development Activities. The proportion of employees actively involved in advancing the business process at the hospital remains relatively low (A2). Some employees are satisfied with fulfilling their daily tasks, while others are generally interested in driving the process forward but hesitate to do so. On the one hand, there is often a lack of understanding that innovative ideas require allocated resources such as working time (A1). On the other hand, some individuals fear implementing their ideas within the team (A2, A7). Additional reasons include insufficient support from management (A6) and the fact that regular team meetings primarily focus on day-to-day operations (A7).

4.3. The Inspiration Wall

Based on the identified barriers in the hospital context and the findings of the literature review (ena-

blers and incentive mechanisms), the second step involves developing an appropriate incentive mechanism for University Hospital Basel. As a result, an **inspiration wall** is chosen as the preferred mechanism to address the identified barriers. The inspiration wall is based on the theory of nudging and aims to subtly guide employees towards submitting their own innovation ideas to the intrapreneurship program. It can be considered as a type of nudging, namely a *disclosure* or *reminder*. Employees are provided with information to regularly draw their attention to the topic of innovation and intrapreneurship. When implementing nudges, it is important to tailor them to the specific context rather than directly adopting examples from elsewhere (Rieder et al., 2020).

The inspiration wall for the University Hospital Basel therefore includes the following components:

- Information on new technologies, digital advancements, and trends to create points of contact for employees with these topics (nudging type: *marginalization*).
- Clear and simple graphical representation of the intrapreneurship program to explain the process and the available resources to employees (nudging type: *simplification*).
- Examples of previous ideas and projects to provide employees with inspiration for generating ideas (nudging type: *examples*).

The three main components are further supported by additional nudges such as prominent headings (nudging type: *framing*) or images of other employees (nudging type: *examples*). It is important for the content to be presented in a simple and understandable manner to cater to the employees' level of knowledge. The information should be condensed to the essentials. Additional information can be linked through QR codes. Furthermore, the inspiration wall should be placed in a location that employees regularly encounter (A8) and ideally outside of their daily routine (A9).

5. Discussion

The aim of this study was to investigate how employees in the hospital can be motivated to submit more (quantity) and better (quality) innovation ideas. Within the DSR approach, we developed a suitable incentive mechanism (artifact) for the University Hospital Basel. The conducted literature review revealed that there are numerous studies on different mechanisms; however, none of them compared these mechanisms with each other or specifically addressed them in the healthcare sector. Addressing this research gap, we categorized the mechanisms into two categories: enablers (7) and incentive mechanisms (8).

The enablers are structural and long-term factors that form the basis for supporting intrapreneurship (Neessen et al., 2019). Five out of the seven enablers identified in the literature were also confirmed in the empirical findings. The literature highlights organizational culture as a central mechanism for encouraging employees to engage in intrapreneurship (Menzel et al., 2007). Similarly, the interviews revealed that the organizational culture plays a crucial role in how changes are perceived (A3). However, two factors were found to be more important for intrapreneurship: the availability of resources and management support (A9). The significance of resources is supported by both literature (Hornsby et al., 2002) and the empirical evidence (A1, A7, A9). Additionally, it was found to be a significant challenge in the hospital context due to the existing shortage of personnel (A1). The top management is responsible for promoting the innovation agenda within the organization (Hornsby et al., 2002). The expert interviews revealed that a lack of support from top management and immediate supervisors hamper motivation to submit ideas (A6). The fifth confirmed enabler in the empirical findings is leadership behavior. As expressed by a therapist, "*You really need the support and encouragement from your leadership*" (A6).

This paper has shown that currently the enablers at the University Hospital Basel are insufficient to engage employees as intrapreneurs. This finding aligns with the study by Rigtering et al. (2019), who recognized that in addition to enablers, incentive mechanisms are also important. Incentive mechanisms are primarily employed when enablers are not optimally designed. While enablers are organizational factors, incentive mechanisms aim to directly influence the motivation of individual employees. Their effectiveness varies depending on whether an employee is intrinsically or extrinsically motivated (Ritala et al., 2019). Research has demonstrated that extrinsic incentives can even have a negative impact on intrinsically motivated individuals (Klarner et al., 2013). Through interviews conducted within and outside the hospital, it became evident that employees in the hospital are primarily intrinsically motivated (A1). They derive motivation from the meaningfulness of their work rather than external incentives such as salary or working hours (A1). However, Rigtering et al. (2019) concluded in their study that intrinsic motivation alone often is insufficient to motivate employees for intrapreneurship. It requires an incentive mechanism that can increase employee motivation in the hospital through a third pathway. In the empirical findings, it was revealed that motivating employees in the hospital cannot always be achieved through rational means, and conventional arguments do not always work (A5).

Nudges from behavioral economics are not classical motivational mechanisms but rather aim to motivate individuals in a somewhat irrational manner (A5). Nudging suggests that people can be nudged towards better behavior through subtle prompts (Thaler & Sunstein, 2008). They are already being applied in various disciplines such as insurance (Harris & Yelowitz, 2017) or education (Damgaard & Nielsen, 2018) to encourage desired behaviors. Nudging in the context of intrapreneurship is relatively new, with only one article in the literature review specifically focusing on nudging (Stieler & Henike, 2022). Nudging is also relatively unfamiliar in the healthcare sector. Empirical evidence suggests that the use of nudges for intrapreneurship shows promise. Therefore, an incentive mechanism, the inspiration wall, was developed based on nudging principles.

The original idea was to set up the inspiration wall as a physical display board, similar to the example by Stieler & Henike (2022). In addition to the numerous digital advertising channels, this would create a space that is traditionally analog. During the evaluation phase, we further discussed this aspect, resulting in the idea of implementing the inspiration wall on digital screens. We identified five advantages to this approach. Firstly, the content of the inspiration wall can be updated more easily and cost-effectively, ensuring its attractiveness. Secondly, digital screens themselves represent a more innovative medium compared to analog display boards. Thirdly, the screens can be temporarily repurposed for specific events such as fairs or exhibitions. This is particularly relevant in a hospital setting where such events and campaigns regularly take place. Fourthly, digital touch screens allow for interaction with the employees. Links can be directly clicked, photos can be scrolled through, and ideas can be submitted directly. This interaction enhances employee engagement. Fifthly, the visibility of the inspiration wall can be increased through moving images and videos.

6. Conclusion and Contributions

Although the need for innovation in the healthcare sector is significant, certain structures inhibit the innovative environment for employees (Melder et al., 2018). The University Hospital Basel (Switzerland) has implemented its own intrapreneurship program. However, it faces the challenge of receiving an adequate number and quality of submitted ideas. Therefore, through the use of DSR research, we have developed an incentive mechanism aimed at increasing the quantity and quality of innovation ideas from hospital employees.

The literature review has revealed the existence of both enablers and incentive mechanisms. Enablers include organizational factors such as corporate culture, management support, and the availability of resources (see, e.g., Hornsby et al., 2002; Kuratko et al., 2005). In contrast, incentive mechanisms seek to directly enhance employees' motivation for intrapreneurship and can operate at different levels. Although we have developed an incentive mechanism for the hospital, our study has shown that the enablers provided by the organization must not be overlooked. For a successful intrapreneurship program, these enablers are just as crucial as a functioning incentive mechanism. The juxtaposition of these two categories contributes to theory, as this has not been done previously.

Through the practical insights of our DSR research, we have contributed to closing the research gap in healthcare intrapreneurship (Marques et al., 2019). We have identified four areas of concern that hinder the innovative behavior of employees in the hospital. Firstly, the effects of the Covid-19 pandemic continue to impact healthcare workers (A1, A3). The ongoing shortage of skilled personnel exacerbates the stress situation (A1, A2). Secondly, some employees lack the necessary knowledge and interest in digitalization topics due to the absence of these subjects in their education (A7). Thirdly, patient care takes precedence, resulting in innovation not being a daily agenda item (A10). Fourthly, various organizational factors create barriers to participation in business process development (A2, A8). For example, there is fear of change within the team (A2).

The developed incentive mechanism, the inspiration wall, is an artifact that can be employed by hospitals to promote intrapreneurship. It is based on the theory of nudging (Thaler & Sunstein, 2008). Our study has demonstrated the promise of nudging, particularly in the healthcare sector. The inspiration wall creates a space where employees can familiarize themselves with the concepts of innovation, digitalization, and intrapreneurship. While it may not directly address the issue of time pressure, it has the potential to generate interest and stimulate intrinsic motivation among the employees.

7. References

- Antoncic, B., & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1), 7–24.
- Berdud, M., Cabasés, J. M., & Nieto, J. (2016). Incentives and intrinsic motivation in healthcare. *Gaceta Sanitaria*, 30(6), 408–414.
- Blanka, C. (2019). An individual-level perspective on intrapreneurship: A review and ways forward. *Review of Managerial Science*, 13(5), 919–961.

- Brundin, E., Patzelt, H., & Shepherd, D. A. (2008). Managers' emotional displays and employees' willingness to act entrepreneurially. *Journal of Business Venturing*, 23(2), 221–243.
- Damgaard, M. T., & Nielsen, H. S. (2018). Nudging in education. *Economics of Education Review*, 64, 313–342.
- De Villiers-Scheepers, M. J. (2011). Motivating Intrapreneurs: The Relevance of Rewards. *Industry and Higher Education*, 25(4), 249–263.
- Döring, N., & Bortz, J. (2016). Datenerhebung. In N. Döring & J. Bortz (Hrsg.), *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften* (S. 321–577). Springer.
- Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behaviour: The mediating role of transformational leadership and social interaction. *Review of Managerial Science*, 15(7), 2075–2110.
- Haki, K., Rieder, A., Buchmann, L., & W. Schneider, A. (2023). Digital nudging for technical debt management at Credit Suisse. *European Journal of Information Systems*, 32(1), 64–80.
- Hansen, P. G., Skov, L. R., & Skov, K. L. (2016). Making Healthy Choices Easier: Regulation versus Nudging. *Annual Review of Public Health*, 37(1), 237–251.
- Harris, T. F., & Yelowitz, A. (2017). Nudging Life Insurance Holdings in the Workplace. *Economic Inquiry*, 55(2), 951–981.
- Hevner, A., March, S., Park, J., & Ram, S. (2004). Design Science in Information Systems Research. *Management Information Systems Quarterly*, 28(1).
- Hevner, A. R. (2007). A Three Cycle View of Design Science Research. 19.
- Hornsby, J. S., Kuratko, D. F., & Zahra, S. A. (2002). Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of Business Venturing*, 17(3), 253–273.
- Kahneman, D., & Tversky, A. (1982). *Judgment Under Uncertainty: Heuristics and Biases*. Cambridge University Press.
- Kirby, D. A. (2006). Creating Entrepreneurial Universities in the UK: Applying Entrepreneurship Theory to Practice. *The Journal of Technology Transfer*, 31(5), 599–603.
- Klarner, P., Treffers, T., & Picot, A. (2013). How companies motivate entrepreneurial employees: The case of organizational spin-alongs. *Journal of Business Economics*, 83(4), 319–355.
- Kuratko, D. F., Ireland, R. D., Covin, J. G., & Hornsby, J. S. (2005). A Model of Middle-Level Managers' Entrepreneurial Behavior. *Entrepreneurship Theory and Practice*, 29(6), 699–716.
- Lemström, T., & Laaksonen, E. (2012). Institutional Logics of Intrapreneurship in Health Care. *ICSB World Conference Proceedings*, 2(1), 1–16.
- Liu, D., Jiang, K., Shalley, C. E., Keem, S., & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes*, 137, 236–263.
- Marques, C. S., Marques, C. P., Ferreira, J. J. M., & Ferreira, F. A. F. (2019). Effects of traits, self-motivation and managerial skills on nursing intrapreneurship. *International Entrepreneurship and Management Journal*, 15(3), 733–748.
- Mattarelli, E., Cochis, C., Bertolotti, F., & Ungureanu, P. (2022). How designed work environment and enacted work interactions impact creativity and work-life balance. *European Journal of Innovation Management*.
- Melder, A., Burns, P., Mcloughlin, I., & Teede, H. (2018). Examining 'institutional entrepreneurship' in healthcare redesign and improvement through comparative case study research: A study protocol. *BMJ Open*, 8(8), e020807.
- Menzel, H. C., Aaltio, I., & Ulijn, J. M. (2007). On the way to creativity: Engineers as intrapreneurs in organizations. *Technovation*, 27(12), 732–743.
- Milne, P. (2007). Motivation, incentives and organisational culture. *Journal of Knowledge Management*, 11(6), 28–38.
- Moriano, J. A., Molero, F., Topa, G., & Lévy Mangin, J.-P. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103–119.
- Neessen, P. C. M., Caniëls, M. C. J., Vos, B., & de Jong, J. P. (2019). The intrapreneurial employee: Toward an integrated model of intrapreneurship and research agenda. *International Entrepreneurship and Management Journal*, 15(2), 545–571.
- Nittala, L., Erat, S., & Krishnan, V. (2022). Designing internal innovation contests. *Production and Operations Management*, 31(5), 1963–1976.
- Park, S. H., Kim, J.-N., & Krishna, A. (2014). Bottom-Up Building of an Innovative Organization: Motivating Employee Intrapreneurship and Scouting and Their Strategic Value. *Management Communication Quarterly*, 28(4), 531–560.
- Peffer, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2007). A Design Science Research Methodology for Information Systems Research. *Journal of Management Information Systems*, 24(3), 45–77.
- Petzsch, V., Rabl, T., Franzke, S., & Baum, M. (2022). Perceived gain or loss? How digital affordances influence employee corporate entrepreneurship participation likelihood. *European Management Review*, 1–22.
- Phillips, F. S., & Garman, A. N. (2006). Barriers to Entrepreneurship in Healthcare Organizations. *Journal of Health and Human Services Administration*, 28(4), 472–484.
- Pinchot, G. I. (1985). *Intrapreneuring: Why You Don't Have to Leave the Corporation to Become an Entrepreneur*.
- Reibenspiess, V. A., Drechsler, K., Eckhardt, A., & Wagner, H.-T. (2019). Blessings and Pitfalls of Harnessing Employee-Driven Innovation within a Work Model.
- Rieder, A., Woerner, W., & Jung, R. (2020). Mit einem kleinen Schubs zur Technologieadaptation - Digitale Nudges systematisch designen.
- Rigtering, J. P. C., Weitzel, G. U., & Muehlfeld, K. (Katrin). (2019). Increasing quantity without compromising quality: How managerial framing affects intrapreneurship. *Journal of Business Venturing*, 34(2), 224–241.
- Ristovska, N., Blazheska, D., & Gramatnikovski, S. (2021). Introducing intrapreneurship management concept in function of improving organizational performance.

- Ritala, P., Vanhala, M., & Järveläinen, K. (2019). The role of employee incentives and motivation on organisational innovativeness in different organisational cultures. *International Journal of Innovation Management*.
- Sannomiya, M., & Yamaguchi, Y. (2016). Creativity training in causal inference using the idea post-exposure paradigm: Effects on idea generation in junior high school students. *Thinking Skills and Creativity*, 22, 152–158.
- Stieler, M., & Henike, T. (2022). Innovation nudging—A novel approach to foster innovation engagement in an incumbent company. *Creativity and Innovation Management*, 31(1), 35–48.
- Suh, A. (2017). Enhancing User Engagement through Enterprise Gamification: Identifying Motivational Affordances.
- Sunstein, C. R. (2014). Nudging: A Very Short Guide. *Journal of Consumer Policy*, 37(4), 583–588.
- Sunstein, C. R. (2018). “Better off, as judged by themselves”: A comment on evaluating nudges. *International Review of Economics*, 65(1), 1–8.
- Szaszi, B., Palinkas, A., Palfi, B., Szollosi, A., & Aczel, B. (2018). A Systematic Scoping Review of the Choice Architecture Movement: Toward Understanding When and Why Nudges Work. *Journal of Behavioral Decision Making*, 31(3), 355–366.
- Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.
- Tseng, C., & Tseng, C.-C. (2019). Corporate entrepreneurship as a strategic approach for internal innovation performance. *Asia Pacific Journal of Innovation and Entrepreneurship*, 13(1), 108–120.
- Vom Brocke, J., Simons, A., Niehaves, B., Niehaves, B., Reimer, K., Plattfaut, R., & Cleven, A. (2009). Reconstructing the giant: on the importance of rigour in documenting the literature search process. *ECIS 2009 Proceedings*.
- Walton, A. L. J., Glassman, B., & Sandall, D. L. (2016). Increasing innovation through engagement: A critical review of an idea stock market and idea management system. *International Journal of Innovation Science*, 8(4), 293–310.
- Webster, J., & Watson, R. T. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly*, 26(2), xiii–xxiii.