# Digital Intrapreneurship: A Work Climate Perspective

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**Abstract.** Digital intrapreneurs (DIs) act and behave in a similar way to typical digital entrepreneurs without the risk of the venture. Digital Intrapreneurship, however, is under the influence of different organizational factors. This study is meant to focus on the relationship between digital intrapreneurship behavior and the workplace climate—specifically, how the workplace climate can influence DIs' ability to innovate and exploit digital technologies. Our study revealed that three key workplace climate dimensions play into the formation of digital intrapreneurship behavior: individual, situational and organizational factors. The individual factors are represented by motivations, digital literacy, goals, needs, and the DI's mindset. The individual factors are affected by the different situational factors that consist of collaborative norms, workplace culture, and group dynamics. The situational factors are in close relationship with organizational factors: mission, core values, and the reward system. The study also concludes that technological factors like digital infrastructure play a key role in the relation of the DI work climate and DI activity enabled said factors.

**Keywords:** Entrepreneurship · Digital intrapreneurship · Intrapreneurs · Work climate

## 1 Introduction

For years, entrepreneurs have driven the creation and success of businesses. However, the release of the term "intrapreneurship" by Gifford Pinchot 35 years ago has opened new ways to approach the entrepreneurial world. Digital intrapreneurs (DIs) are intrapreneurs who act and behave in a similar way to typical digital entrepreneurs (DEs), except without the risk of the venture [1]. This means that, while DIs perform entrepreneurial behaviors, they do so both at a smaller scale and as an employee within an organization [2]. Thus, DIs' behaviors fall under the influence of different organizational factors [1, 3]. This study focuses on the relationship between digital intrapreneurship behavior and workplace climate, specifically how workplace climate can influence DIs' abilities to innovate and exploit digital technologies.

While current innovation literature highlights the role of employees in innovation, it falls short in explaining the behavioral aspects of digital intrapreneurship affected by work climate [4]. Digital innovation has created new norms around uncertainty in

organizations striving for innovation [5]. As the key tool used by DIs, digital innovation allows for intrapreneurs to explore new ideas sans risk, while also providing a competitive advantage to withstand the inconsistencies in the DE climate [5]. The importance of DIs speaks to the need to nurture their ability to innovate within their organizational framework and constraints [6].

In this paper, after providing necessary background information about digital intrapreneurship, we model the relationship between the success of DIs and the digital intrapreneurship work climate (DIWC). The conceptual model proposed by this research focuses on three key dimensions of work climate and the relationships between them that nurture said digital intrapreneurship behavior: individual, situational, and organizational factors. The paper then concludes with a discussion of the model's practical applications and possibilities for future studies.

## 2   Background

### 2.1   Nourishing Digital Intrapreneurship

Digital intrapreneurs (DIs) behave like digital entrepreneurs (DEs) without the risk of capital loss or personal failure. While DIs innovate within the business, they have an entrepreneurship mindset. This mindset is what defines DIs as they engage, act, and make decisions like DEs [7]. Expanding on the subject of intrapreneurs, Gifford Pinchot wrote *Intrapreneuring* in 1985 discussed the traditional approach to intrapreneurship and provided simple conceptualizations of intrapreneurs [1]. One of the definitions provided by Pinchot defines intrapreneurs as "the dreamers that do, they don't just come up with ideas, their core role is turning ideas into [successful] business realities," [8]. This definition signifies the role of intrapreneurs in successful businesses, and thus the present study identifies the key mechanisms to nourish DI activities in order to drive innovation and success within organizations.

In this paper, we refer to "nourishing" as all of the activities and resources, from a work climate perspective, that are required to encourage and develop successful DIs. Like other positions in the business world, DIs have both internal and external motives influencing their level of participation. Employee driven innovation is positively influenced by both external, structural support as well as intrinsic, psychological empowerment [9]. This relationship means that in order for employee driven innovation to occur in an organization, employers and managers must empower the ordinary employee to create ideas and participate in the development and implementation process. Through this, external forces increase the internal motivation of DIs to push further, increasing innovation productivity and success overall. However, in this study, we mainly focus on the internal factors due to their relative manageability, compared with external factors, to best optimize the DI activity output.

### 2.2   Work Climate: Digital Intrapreneurship Perspective

A work climate is a set of perceived properties of a work environment that influences the motivation and behavior of individuals who work in that environment [10]. These

perceptions influence employees' intrapreneurial productivity, motivation, and creativity [1]. However, DIs differ from entrepreneurs as they require digital tools to create values [11]. As a result of this need, DIs require their workplaces to provide the proper technical infrastructure and support to succeed in their efforts to innovate [12, 5].

Despite certain personality features that define DIs, digital intrapreneurs are 'social actors' and thus are impacted by their social environment. According to the social exchange theory developed by the sociologist George Homans, social interactions are made of social exchanges [13]. This theory argues that people weigh the pros and cons of every relationship such that, when the cons outweigh the pros, people will terminate that relationship. We argue that the social exchange theory helps to maximize the benefits that digital intrapreneurs get out of their workplace relationships, increasing their innovation activities like collaboration, ideation, and experimentation.

As part of the workplace climate, collaborative norms and group dynamics play important roles in encouraging innovation behavior amongst DIs. Collaborative norms, made up of social norms, are defined by the interactions that a person has with another [14]. Social norms, more broadly, are expectations about what behaviors, thoughts, or feelings are appropriate within a given context, situation, or society. Work climates can thus include a set of collaborative norms that help increase employee productivity and creativity. There are seven norms of collaboration: pausing, paraphrasing, posing questions, proposing ideas, providing data, paying attention to self and others, presuming positive intentions [14]. Collaborative norms also help workers become more creative due to their increase in interaction and deliberation amongst employees [14]. The present study focuses on collaborative norms related to DI, meaning we primarily consider the relationships that DIs have with other coworkers in their work environments. When implemented in a work environment, collaborative norms help develop an environment that specifically increases DI productivity and well-being [2, 5].

In tandem with collaborative norms, we need to talk about group dynamics because they play a role in a group setting. Group dynamics, conceptualized by Kurt Lewin, represent the effects of the roles individual members play in a group setting [15]. A positive group dynamic includes high levels of trust in each other, a common goal, a collective decision-making process, and efforts to hold each other accountable [16]. For DIs, a positive group dynamic is necessary to both boost their individual creativity as well as the creativity of the group [2]. The present study argues the importance of avoiding poor group dynamics, which often include negative behaviors that disrupt the flow of work, collaboration, and decision-making in an organization, decreasing its overall success and effectiveness [16]. To avoid a negative group dynamic, organizations must carefully plan to avoid things like weak leadership, excessive deference to authority, blocking, groupthink, free riding, and evaluation apprehension. If these behaviors are avoided, a positive group dynamic can be established to increase a positive work climate in which DIs can thrive.

## 3   Theoretical Framework

Our proposed model explains the relationships between work environment components including work climate and DI behaviors and outcomes. We theorize these relationships based on four interrelated concepts: *environmental factors, digital intrapreneurship*

*experience, digital intrapreneurship infrastructure,* and *digital intrapreneurship outputs.* As a result of this model, we hypothesize that digital intrapreneurship outputs increase within an organization if the digital intrapreneurship is supported by intrapreneurial work practices, digital technology and positive digital intrapreneurship experience. While there are external factors encouraging or demanding DI such as competition, customer demand/needs, digital innovation trends, new technologies, political changes, and the economy [12], we emphasize the direct influence of the individual factors, situational factors, and organizational factors on DI behavior and output. A work climate in which a digital intrapreneur can thrive must include collaborative norms and group dynamics. DIs require an environment that psychologically and structurally empowers them to engage in employee driven innovation (EDI). These factors highlight the relationship between the individual DI, the situation they are in and the organizational culture that influences them [17]. As a cluster, these factors form the DI experience. Moreover, the DI should fall in a continuous learning cycle in order to revisit and improve the work climate and the key enablers (work practices and digital technology). The rest of this section discusses the importance of these components and their relationships (Fig. 1).
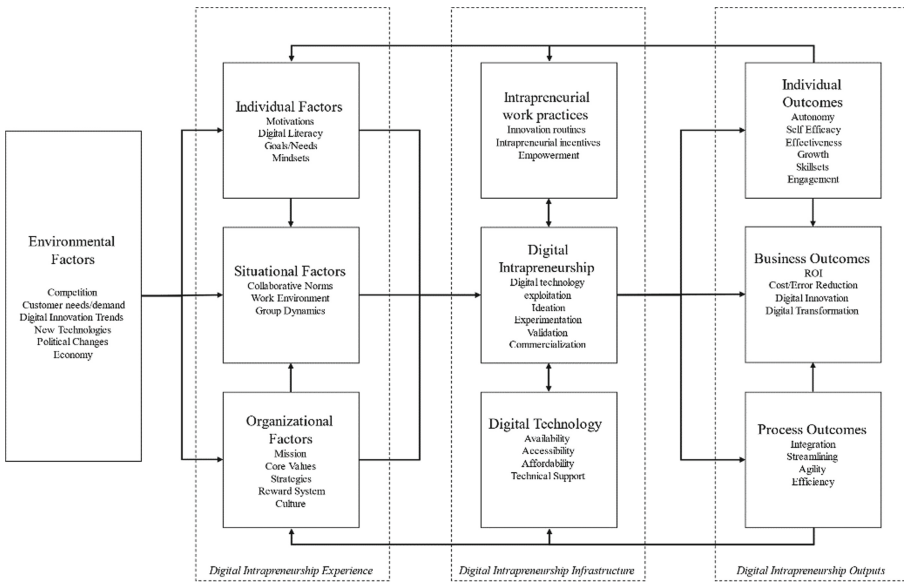


**Fig. 1.** A digital intrapreneurship model

### 3.1   Digital Intrapreneurial Experience

The individual factors are represented by individual motivations, digital literacy, goals, needs, and mindsets. The motivations associated with DIs are both extrinsic and intrinsic motivations [18]. For example, we argue that internal motivation increases both the productivity and creativity of DIs. In addition, digital literacy enables DIs to fully utilize

innovation technologies, increasing their ability to engage in effective innovation themselves [7]. We also found that the goals/needs of a DI are positively influenced by the risk-free nature of their positions as DIs [19]. Finally, DIs are known to be self-sufficient [9]. This is due to the nature of the role of an intrapreneur. Similar to an entrepreneur, minus the risk of the venture, they do not conform to regular employee roles and take ownership in their activities DIs [19]. Finally, DIs are known to be self-sufficient [9]. This is due to the nature of the role of an intrapreneur. Similar to an entrepreneur, minus the risk of the venture, they don't conform to regular employee roles and take ownership in their activity [6], in other words, a mindset in which they will have to lead and make decisions for the company. [6], in other words, a mindset in which they will have to lead and make decisions for the company.

Successful DIs share a certain set of skills and traits including autonomy, intrinsic motivation, digital literacy, and attitude toward technology [20, 21]. Autonomy, the ability for employees to work independently and make their own decisions, is necessary as it increases interest in the organization's industry. By being autonomous, DIs develop intrinsic motivations vital to the success of an organization through their persistence and greater productivity [22]. A workplace with people that are animated by intrinsic motivations will motivate each other through their relationships with each other and a sense of unity. It is easier to nurture something that is already created than create it. That being said, it is easier to increase someone's existing intrinsic motivation than to nurture it from scratch, [23] hiring or empowering DIs based on their inherent motivation increases their likelihood of success. This can provide an organization a competitive edge in terms of innovation productivity. In terms of other organizational factors, the work environment must include access to up-to-date digital technologies to support the DI's use of technology to increase effectiveness and productivity [3].

In addition to autonomy and intrinsic motivation, successful DIs have high digital literacy. According to the ALA task force [24], digital literacy is "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills." (p.1). For DIs, digital literacy involves familiarity and expertise with new digital tools [7]. This is relevant to our context because digital literacy is related to innovation and the field of digital intrapreneurs. Related to digital literacy, attitude towards technology is also important to digital intrapreneurship. A positive attitude toward and comfort with ever-changing technologies increases a DI's ability to effectively innovate in a digital environment. Successful DIs keep an open mind when working with new technological tools. This means that, when working in an environment where digital technology is the primary tool used for innovation, a positive attitude towards technology is a prerequisite [11, 25].

These individual factors have two-way relationships with various situational factors, including collaborative norms, work climate, and group dynamics. Collaborative norms refer to the ways a DI will interact with its coworkers while working in a digital environment, such as pausing, paraphrasing, asking questions, etc. [14]. To create an atmosphere that encourages positive collaborative norms, a warm and welcoming workplace climate allows DIs to thrive in their overall creativity [14]. Contributing to the workplace culture, group dynamics include the relationships between DIs and their coworkers [15].

Situational factors are also related to the organizational factors identified in the present study: the organization's mission, core values, and reward systems. First, the mission of a company has an impact on DIs as it improves their effectiveness, consequently the organization's effectiveness too [26] This mission is also linked to an organization's core values as these guiding principles ensure consistency amongst employees' mindsets and beliefs about their shared goals. In particular, DIs must be the first to embody these values as a central aspect of their job is to represent their company. An organization's mission pertaining to digital innovation cannot be accomplished without hiring the right people and motivating them in an effective way. Therefore, the last organizational factor explored in this study is the types of reward systems or reward philosophies employed by an organization.

## 3.2 Digital Intrapreneurial Infrastructure

Workplace programs and practices that encourage DI innovation and success are referred to as DI infrastructure in this paper. DI infrastructure includes intrapreneurial work practices, digital intrapreneurship, and digital technologies, all elements that allow DIs to engage in the innovation process.

Technological factors like digital technology infrastructure and support play a key role in DI activity and success [5]. Digital infrastructure refers to the physical and organizational structures and the facilities needed for the practice and operations of digital innovation. Workplace practices comprising this infrastructure (i.e., innovation routines, incentives, and empowerment) encourage innovation activity amongst DIs [27]. Infrastructure in an organization stimulates innovation through increasing DIs' interactions, engagements, collaboration, and exploration, and thus work practices motivate and increase positive DI activity. Effective infrastructure influences the entire process of digital intrapreneurship, including exploration, ideation, experimentation, validation, and commercialization [4]. The ability for DIs to experiment sans risk allows the DEs to increase innovation while minimizing the risks associated with typical trial and error processes. However, their effectiveness and success rely on the availability, accessibility, affordability, and technical support of digital technologies provided to DIs by their organizations [3]. Allowing DIs, the optimal use of such technologies supports and encourages their progress and success. Workplace environments in tandem with the individual factors of DIs and powerful technological tools provide the motivation, collaboration, encouragement, and infrastructure needed for DIs to engage in effective innovation activities. Technological factors like digital technology infrastructure and support play a key role in DI activity and success [5]. Digital infrastructure refers to the physical and organizational structures and the facilities needed for the practice and operations of digital innovation. Workplace practices comprising this infrastructure (i.e., innovation routines, incentives, and empowerment) encourage innovation activity amongst DIs. Infrastructure in an organization stimulates innovation through increasing DIs' interactions, engagements, collaboration, and exploration, and thus work practices motivate and increase positive DI activity. Effective infrastructure influences the entire process of digital intrapreneurship, including exploration, ideation, experimentation, validation, and commercialization [4]. The ability for DIs to experiment sans risk allows the DEs to increase innovation while minimizing the risks associated with typical trial

and error processes. However, their effectiveness and success rely on the availability, accessibility, affordability, and technical support of digital technologies provided to DIs by their organizations [3]. Allowing DIs, the optimal use of such technologies supports and encourages their progress and success. Workplace environments in tandem with the individual factors of DIs and powerful technological tools provide the motivation, collaboration, encouragement, and infrastructure needed for DIs to engage in effective innovation activities.

While individual factors clearly play a vital role in the success of DIs in an organization, situational factors influence the behaviors of DIs and their outputs. Bandura's social cognitive theory [28] explains that DIs are influenced by other people's behavior, roles, and relationships, the factors that comprise their work climate. In the case of DIs, this theory explains the influence a work climate can have on their DI behavior as well as how they can learn through their observations of others in the digital field.

Bandura's social learning theory argues that learning happens during observation and through mediational processes [28]. For DIs, observing others engage in collaborative activities or utilize new technologies may motivate their own efforts to collaborate more or experiment with novel tools. Various mediational processes occur that help determine whether or not an individual will imitate a behavior they have observed/are currently observing. The four mediational processes involved in the social learning theory are attention, retention, reproduction, and motivation [29]. Work environments that discourage these processes prevent DI's from successfully learning from the behaviors and successes of those around them, a key avenue for increasing productivity and effectiveness in innovation efforts.

In order to learn from others' behaviors, we should pay attention to the behavior itself. Thus, a DI's work climate must highlight positive behaviors through programs like reward systems. This suggestion draws employee attention toward the most effective and favorable behaviors, increasing the overall ability of the team [26]. However, in order to perform a new behavior, an individual must retain the information they pay attention to recreate the behavior later. Thus, retention is one of the most important mediation processes involved in social learning theory [30]. After retaining information about a new behavior, individuals must be able to reproduce the information they have processed. For DI's to properly reproduce new behaviors, their work climate must effectively demonstrate, explain, and model favorable and positive behaviors. In order to learn from others' behaviors, we should pay attention to the behavior itself. Thus, a DI's work climate must highlight positive behaviors through programs like reward systems. This suggestion draws employee attention toward the most effective and favorable behaviors, increasing the overall ability of the team. However, in order to perform a new behavior, an individual must retain the information they pay attention to recreate the behavior later. Thus, retention is one of the most important mediation processes involved in social learning theory [31]. After retaining information about a new behavior, individuals must be able to reproduce the information they have processed. For DI's to properly reproduce new behaviors, their work climate must effectively demonstrate, explain, and model favorable and positive behaviors.

Reproduction, the third mediational process in the theory, can only occur if the observer has the capacity to reproduce the behavior. For DI's, the work environment must

provide them the tools and resources necessary to successfully learn the new behaviors they observe from others [11]. Given the proper tools and support, the final process identified by social learning theory is motivation [31]. This stage occurs after DIs conclude that the rewards of performing the behavior outweigh the costs. In a work environment for DI's, this could include increasing employee perceptions of the positives of new, innovative behaviors. Social cognitive theory helps explain the necessary attributes of a work climate in which Dis may thrive. If the work environment does not fulfill these processes, DIs will likely not reproduce novel behaviors that drive productivity and effectiveness in their positions.

### 3.3 Digital Intrapreneurs Outputs

The outcome of successful and effective DIs is conceptualized as DI activity output. It includes individual outcomes, business outcomes, and process outcomes. Workplaces that prioritize the success of their DIs help employees to increase their self-efficacy, provide a greater return on investment (ROI), and streamline processes for successful innovation. Nourishing DIs increases their overall output and value. At an individual level, when DIs develop more effective behaviors and skills, they add a competitive advantage to the success of digital ventures. The DI's continuous ability to practice and improve their skillset with less risk enables them to prepare for more effective and innovative DE activity.

With the proper environmental and individual factors, DIs are more likely to experiment with and successfully utilize digital innovation technologies. The ability to experiment freely and test innovative ideas sans risk strengthens a company's ability to withstand inconsistencies in its environment/market [5]. The encouragement of DI activity generates a competitive advantage for DEs by strengthening talent within the organization. We argue that the individual outcomes produced by successful DIs route directly through their own autonomy, self-efficacy, effectiveness, personal growth, skillset, and increased engagement.

Robust infrastructures provided by organizations allow DIs to further develop their capabilities to engage in digital intrapreneurship activities. Through observations of others and a supportive work environment, DIs engage in a continuous learning experience that strengthens their ability to withstand and endure the challenges in the field, such as keeping up with the rapid developments in digital innovation technologies [32]. Individual outcomes influence business outcomes through ROI, cost/error reduction, increased digital innovation, and productive transformation [33]. By allowing DIs to grow and fortify their capabilities, risk levels and error reduce while innovation productivity increases. Finally, individual and business outcomes influence the overall process outcomes. DI will engage with the digital technologies to exploit the resource and transform it into an output such as digital innovation. This digital innovation would then have a process such as integration that would have to be streamlined and maintained for efficiency. This repetitive action would then influence the individual outcome reflective in their skillset. Business outcomes refer to the ROI, the digital innovations created by the DI. The DI would innovate go through the digital intrapreneurship process for efficiency in which would result in a lower cost of error for the organization.

## 4 Discussion and Recommendations

We began our work by understanding digital innovation as the crux of digital intrapreneurship. As we went through our literature review, we identified a connection to DI behaviors and their workplace environment. The work climate affects the motivation and behavior of the DIs. There are many factors that come into play such as internal, environmental, organizational. The act of "nurturing" DI refers to ensuring that all possible influential factors are positively encouraging individuals to fail and try again until they succeed. To narrow our study to a specific approach out of the many avenues available, we created a conceptual model.

Our conceptual model shows how DI is encouraged through different mechanisms. There are four key concepts within our model which include: environmental factors, digital intrapreneurship experience, digital intrapreneurship infrastructure, digital intrapreneurship outputs. Within digital intrapreneurship experience, we identified individual, situational and organizational factors. Under digital intrapreneurship infrastructure is intrapreneurial work practices, digital intrapreneurship, and digital technologies. Under digital intrapreneurship outputs are the individual outcomes, business outcomes, and process outcomes. The model represents the work climate necessary for digital intrapreneurship to flourish. The "nurturing" perspective is to have all factors working to positively influence the DI to engage in DI activities with the hopes of a positive outcome. In the case of negative outcomes such as failure, it is the work climate that "nurtures" again to the DI to try again until success. The feedback loops in this model should result in an increase within all the factors in the model, specifically the digital intrapreneur experience and activity output.

In order to increase successful digital intrapreneurship, we have provided a list of recommendations for organizations to follow. One important way to encourage digital intrapreneurship is to reinforce positive behaviors in the workplace. According to Luthans, there are different types of organizational behavior modifications (O.B. Mod.) that can improve employee performance [34]. In a digital intrapreneurship context, an O.B. Mod. approach is one strategy that could increase the likelihood that DIs adopt positive behaviors modeled by other team members or encouraged by management.

These rewards increase employee motivation to experiment and learn new skillsets. Organizations should provide opportunities for employees to be promoted and receive meaningful recognition for their hard work. Well-designed reward systems encourage employees to strive for more than the minimum expectation. Further, improvements to an organization's culture can improve DIs' innovation and performance [17]. The culture of the organization needs to encourage DIs to strive for a central goal informed by the organization's mission and values. Making these explicit can help focus employee efforts and increase successful collaboration. In a digital environment, promoting a culture of innovation is uniquely key to the success of DIs. This is a set of shared beliefs and risk-taking behaviors that lead to openness towards innovation. A culture of openness provided by the creation of an innovation culture also has a positive impact on collaboration.

DIs must be nourished through internal and external motivating factors. These factors must promote both psychological and structural empowerment through internal and external factors. The internal locus of control in an individual is a primary concern, as

individuals must be motivated to learn and open to learning from mistakes in order to engage in effective digital intrapreneurship activities. The ideal DI work climate is a complex environment in which everyone has an important role to play. Simple positive shifts in a work climate can have powerful effects on the success of DIs and their work. Individual, situational, and organizational factors must all be taken into consideration when planning a work climate for higher and more effective digital intrapreneurship.

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