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Happiness at work in small and medium-sized enterprises: an analysis of innovation and creativity

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Abstract

Background This study focuses on analysing the relationship between digital innovation, innovation culture, creativity, and happiness at work in the context of small and medium-sized enterprises (SMEs) in Mexico. As digitalisation transforms work processes, it becomes essential to understand how these factors interact and impact employee well-being, especially in emerging economies.

Methods The research adopted a non-experimental quantitative approach using a cross-sectional design. A multigroup analysis was applied through Structural Equation Modelling (SEM) to examine the relationships between variables in two groups of companies (small and medium-sized). The sample included 208 workers from various sectors in Mexico. Likert scale questionnaires, based on validated instruments, were used to measure digital innovation, innovation culture, creativity, and happiness at work.

Results The results revealed that digital innovation positively impacts employee creativity, especially in small companies ($\beta = 0.140$, $p < 0.10$), where more flexible structures allow greater autonomy. However, in medium-sized companies, the effect of digital innovation on happiness at work largely depends on an innovation culture ($\beta = 0.533$, $p < 0.001$) that promotes experimentation and collaboration. Creativity has a positive and significant effect on happiness at work ($\beta = 0.447$, $p < 0.001$), highlighting the importance of an organisational environment that values creativity. The model explained 67.2% of the variance in happiness at work, emphasising the crucial role of these variables in enhancing employee well-being.

Conclusions The study confirms that the synergy between digital innovation, innovation culture, and creativity is crucial for fostering happiness at work, although the effect varies depending on company size. In small companies, organisational flexibility facilitates the direct effect of digitalisation on creativity and happiness at work. However, in medium-sized companies, a stronger focus on innovation culture is required to maximise these benefits. These findings suggest the need for differentiated strategies to promote organisational well-being across companies of different sizes.

Keywords Digital innovation, Innovation culture, Creativity, Happiness at work, Organisational well-being, Structural equation modeling, Employee engagement, Small and medium-sized enterprises (SMEs)

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Introduction

In the contemporary labour landscape, digitalisation and globalisation have driven profound transformations within organisations [6, 9]. These changes have intensified the focus on employee emotional well-being, recognised not only as a foundation for personal satisfaction but also as a determining factor in organisational productivity and sustainability [67]. In this context, the interaction between digital innovation, innovation culture, and creativity acts as a catalyst for happiness at work and job performance [4, 32], especially in emerging economies such as Mexico, where small and medium-sized enterprises (SMEs) represent the cornerstone of economic development [7, 47].

As digital innovation redefines organisational processes, it also transforms workplace dynamics, facilitating new forms of interaction and collaboration among employees [8]. When complemented by a strong innovation culture, this process fosters an environment where creativity can thrive, enhancing both the personal and professional development of workers [48, 73]. Consequently, the interplay between innovation, creativity, and happiness at work becomes a strategic focus for organisations aiming to improve employee well-being and optimise performance [52]. However, despite the relevance of this connection, there remains a research gap in the analysis of these variables within the context of SMEs, particularly in emerging economies such as Mexico [33, 69]. This study addresses this gap by examining how digital innovation and innovation culture influence workplace happiness, particularly in Mexico's SME sector, which faces unique challenges and opportunities.

Building on this foundation, the study of happiness at work becomes even more significant when aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda. SDG 3, which promotes holistic well-being, and SDG 8, focused on inclusive economic growth and productive employment, underscore the importance of developing work environments that are both healthy and productive [35, 79]. In this regard, the adoption of"happiness management"strategies has become a crucial approach to fostering workplace happiness, thereby driving greater organisational efficiency and contributing to the achievement of global objectives [21, 23, 52].

Additionally, from a psychological perspective, happiness at work is closely linked to elements such as autonomy, a sense of belonging, and the opportunity to exercise creativity [2]. These aspects have been primarily studied in large corporations and developed economies. However, there is a significant gap in the literature regarding how these variables impact SMEs, particularly in emerging contexts such as Mexico [25, 86]. Given the particular structure of these companies and the inherent challenges faced by emerging countries, it is crucial to generate knowledge that explores how digital innovation and innovation culture influence workplace happiness in these settings [48].

This study hypotheses that digital innovation and innovation culture have positive effects on creativity and happiness at work, and that these relationships differ between small and medium-sized enterprises in Mexico. By analysing these relationships, the research aims to contribute to the design of organisational strategies that promote employee well-being and drive business performance. The findings offer practical implications for SME managers and policymakers by providing evidence-based insights on how to leverage innovation to enhance well-being in complex and uncertain environments. The structure of this article begins with a comprehensive literature review on digital innovation, innovation culture, creativity, and happiness at work. This is followed by a description of the methods used for data collection and analysis, presentation of the results, and discussion. Finally, the practical implications of the study are addressed, along with its limitations and proposals for future research directions.

Literature review

Happiness at work

Happiness at work has gained a prominent place in contemporary research due to its direct influence on productivity, personal satisfaction, and the overall well-being of employees [29, 42, 70]. It is understood as a positive emotional state that emerges when working conditions allow employees to experience autonomy, a sense of belonging, and opportunities to develop their creativity [2, 68]. This concept has transcended mere satisfaction with assigned tasks, incorporating deeper perceptions of purpose and interpersonal relationships within the work environment [25]. In a global context marked by digitalisation and constant organisational transformations, happiness at work has become a key variable for both organisational success and the happiness and well-being of employees [19, 21, 70].

In line with these premises, investigating happiness at work in the current context is crucial, as it contributes not only to reducing staff turnover [52], but also to enhancing innovation capacity and organisational performance [69]. The COVID-19 pandemic and the accelerated digital transformation of work have emphasized the importance of understanding how emerging dynamics such as digitalisation and innovation culture affect employees' emotional well-being [58, 62, 71]. In this regard, elements such as optimism, purpose, autonomy, and social support have been linked to greater happiness at work [83]. Moreover, previous research indicates that

participation in collective and cultural activities strengthens social cohesion and fosters happiness, which are vital elements for sustaining a culture of innovation in organisations [75]. Beyond these outcomes, workplace happiness has also been associated with increased employee engagement, resilience, psychological safety and creativity [34], all of which are essential for organisations operating in increasingly brittle, anxious, nonlinear and incomprehensible environments, commonly described as BANI contexts.

Several studies have analysed the relationship between happiness at work and digital innovation. A representative example is the research conducted in Spain by Ravina-Ripoll et al. [69], with a sample of 156 employees from the private sector, which found that the implementation of digital technologies, combined with an organisational culture that promotes collaboration and internal communication, has a positive impact on job happiness. Employees who enjoy greater autonomy and creativity in their tasks, facilitated by digitalisation, experience higher levels of happiness at work. However, studies like Frinaldi et al.'s research in Indonesia [31], with a sample of 691 public sector employees, suggest that digitalisation, when not properly managed, can lead to technological overload and stress, thus reducing job happiness.

Moreover, innovation culture within organisations has been shown to be an influential agent in promoting happiness at work [80]. A study in Spain by Espasandín-Bustelo et al. [25], involving 921 SME employees, revealed that an innovation culture promoting flexibility, autonomy, and active participation has a direct effect on job happiness. Organisations that allow employees to express their ideas and participate in creative processes tend to generate higher levels of happiness at work [47]. In contrast, a study by Kamis et al. [46] in Indonesia, with 243 public sector employees, found that although innovation culture fosters innovative behaviour, it does not always translate into higher levels of happiness. In this case, perceived organisational injustice offset the benefits of innovation culture, highlighting that fairness and justice are essential for positively impacting job happiness.

Additionally, creativity, as both an individual and organisational component, has also been closely associated with happiness at work. Al Serkal [78], in a study conducted in the United Arab Emirates with 120 public sector employees, found that job happiness is a key mediator between creativity and job performance. Employees who feel happy and creative show higher performance and satisfaction in their daily tasks [3]. On the other hand, Cai et al. [15], in their study with 365 employees from technology companies in China, noted that a lack of adequate organisational support can limit the positive effects of creativity on happiness. Although more creative employees tend to have a greater sense of satisfaction, a lack of resources and recognition can inhibit their emotional well-being, reinforcing the importance of a supportive environment that allows creativity to flourish.

Despite the abundant research on happiness at work, few studies have jointly integrated digital innovation, innovation culture, and creativity as factors influencing workplace well-being. A notable example is the study conducted in the banking sector in Spain by Sánchez-Hernández et al. [76], which analysed a sample of 354 employees. This study revealed that the synergy between innovation culture, digitalisation, and the promotion of creativity has a significant impact on employee happiness. Organisations that implement strategies integrating these factors not only foster the well-being of their employees but also improve their productivity and competitiveness.

Digital innovation

Digital innovation has become a fundamental pillar for organisational development in a globalised and highly competitive economic environment [59, 87]. It is defined as the incorporation of digital technologies that enable companies to transform their processes, products, and services in a more efficient and agile manner [84]. This transformation not only drives resource optimisation but also facilitates the creation of new business opportunities and fosters an organisational culture oriented towards continuous change [51]. In an increasingly digitalised world, studying the impact of digital innovation on organisational dynamics has become essential for understanding how companies can remain competitive and adapt to the rapid changes in the global market [54].

In recent years, academic interest in digital innovation has grown significantly, particularly in the context of the COVID-19 pandemic, where the accelerated adoption of digital technologies allowed many organisations to remain operational [65, 71]. This phenomenon has motivated an expansive number of studies seeking to analyse not only how organisations implement these technologies but also how they impact variables such as innovation culture and creativity [82]. In this sense, academic research has highlighted both the benefits and challenges associated with the adoption of digital innovation in various sectors [63], with some studies showing that technologies such as artificial intelligence can foster creativity and well-being in supportive environments [74]. However, significant differences in study outcomes suggest the complexity of digitalisation processes and the need to deepen our understanding of them [14].

Adding to this body of knowledge on innovation culture, a study conducted in Germany by Distel et al. [24], which included 668 workers, showed that digital

innovation has a significant positive effect on organisational innovation capacities. The research revealed that a culture of continuous improvement and process innovation facilitates the adoption of digital technologies, which, in turn, enhances an organisation's ability to innovate. However, the study also identified barriers that moderate this relationship, suggesting that organisational culture alone does not guarantee success in implementing digital innovations. In contrast, a study in Japan by Minetaki and Bunno [56], with a sample of 243 employees, found that adopting digital technologies does not always promote innovation culture in small and medium-sized enterprises. In this case, the lack of alignment between technological strategies and organisational culture resulted in ineffective implementation, negatively affecting the companies'innovation capacities.

Regarding the relationship between digital innovation and creativity, an empirical study conducted in Sweden by Wikhamn and Styhre [85] in video game development firms revealed that digital innovation facilitates the emergence of new forms of organisational creativity. In this study, which involved 350 employees, it was found that digitalisation allows workers to interact more flexibly with their tools, stimulating the generation of new ideas and creative solutions. However, a study in China carried out by Jiang et al. [43], with a sample of 378 associates in the technology sector, yielded opposing results, indicating that the pressure associated with adopting new technologies can limit employee creativity, as technological demands and a lack of sufficient resources create a stressful environment that inhibits creative thinking.

Finally, while studies have been conducted on the effects of digital innovation on innovation culture and creativity, there are still few studies that holistically integrate these three variables. An example is the longitudinal study by Priyono et al. [65], which analysed the relationship between digitalisation, organisational innovation, and creativity in creative industries in Indonesia. This study found that when digital innovation is implemented in an organisational environment that fosters innovation and creativity, employees are not only more productive but also experience greater job happiness and personal satisfaction. This reinforces the idea that digital innovation, when appropriately aligned with organisational culture and a creative environment, can have a transformative impact on business dynamics and employee happiness.

Innovation culture

Innovation culture is defined as a set of values, norms, and practices that promote the creation and adoption of new ideas, products, and processes within an organisation [1, 89]. According to Lam et al. [48], this concept is fundamental for fostering experimentation, risk-taking and continuous improvement, essential agents in dynamic and highly competitive business environments. In this sense, innovation culture allows organisations to remain adaptable to market changes while promoting creative thinking among employees [10]. This not only enhances the company's competitiveness but also strengthens the organisational capabilities necessary for long-term sustainability [81].

Recently, the study of innovation culture has gained significant relevance in research [16]. This interest stems from the understanding that fostering an organisational culture that promotes innovation is key to driving creativity and improving business outcomes [88]. Additionally, the accelerated digital transformation in many industries has created an environment where companies must constantly innovate to remain competitive [44, 72]. Therefore, investigating the relationship between innovation culture and variables such as creativity has become a priority for both academics and business leaders [41].

In the realm of corporate governance, the relationship between innovation culture and creativity has been explored in various studies. For instance, Marić et al. [50] investigated this relationship in Serbia, using a sample of 921 employees from innovation-oriented companies. The study revealed that an innovation culture, when combined with proper resource management and organisational motivation, significantly fosters employee creativity. This reaffirms the notion that an innovative organisational culture not only improves productivity but also creates an environment where creativity flourishes and contributes to the company's long-term success.

Conversely, Chaubey and Sahoo [17] conducted research in India's automotive industry, with a sample of 575 employees, to analyse the influence of innovation culture on creativity. While the results indicated a positive impact of innovation culture on creativity, the study also highlighted that a lack of adequate training and an unfavourable organisational climate could inhibit the development of innovative ideas.

Creativity

Creativity, in its most essential definition, refers to the ability to generate novel and useful ideas, products, or solutions that can have tangible applications within an organisational context [27, 55]. According to Amabile [5], creativity is the result of the intersection between specialised knowledge, creative thinking skills, and intrinsic motivation. The importance of creativity in organisations lies in its capacity to drive innovation, which, in turn, is an essential engine for competitiveness and growth in dynamic markets [26]. In the past decade, research on creativity has gained

notable prominence, particularly in management and organisational psychology studies, as it has been shown to directly influence organisational effectiveness and employee happiness [91].

The study of creativity within organisations has intensified due to rapid technological changes and the growing need for adaptation and innovation [63]. Researchers such as Hussain and Wahab [41] have demonstrated that employee creativity is linked to innovative behaviour, which, in turn, drives organisational innovation. Specifically, research on creativity has demonstrated its value in various sectors, but it has also revealed that its impact depends on multiple contextual variables [49]. The existence of an organisational environment that supports and fosters creativity is essential for translating innovative ideas into tangible results, which, in turn, lead to happier and more productive employees [64].

Thus, this study aims to contribute to Amabile's [5] Componential Theory of Organisational Creativity by analysing how digital innovation and innovation culture, as organisational facilitators, influence creativity and happiness at work. By applying this approach to a multigroup analysis between small and medium-sized enterprises in Mexico, the study explores how these factors can enhance creativity and, consequently, improve employee happiness. This study expands the theory by including happiness at work as a crucial outcome derived from intrinsic motivation and a favourable organisational environment, providing a new perspective on how SMEs can maximise innovation, improve productivity, and enhance employee well-being through fostering creativity in digitalised environments.

Based on these arguments, the following hypotheses are proposed to unravel the synergies between digital innovation, innovation culture, creativity, and happiness at work, as well as the possible differences between small and medium-sized enterprises:

H1: Digital innovation has a positive and significant effect on innovation culture.
H2: Digital innovation has a positive and significant effect on creativity.
H3: Digital innovation has a positive and significant effect on happiness at work.
H4: Innovation culture has a positive and significant effect on creativity.
H5: Innovation culture has a positive and significant effect on happiness at work.
H6: Creativity has a positive and significant effect on happiness at work.
H7: Innovation culture mediates the relationship between digital innovation and happiness at work.
H8: Creativity mediates the relationship between digital innovation and happiness at work.
H9: Creativity mediates the relationship between innovation culture and happiness at work.
H10: Creativity mediates the relationship between innovation culture and happiness at work as a result of the influence of digital innovation.
H11: There are differences in the relationships between digital innovation, innovation culture, creativity, and happiness at work between small and medium-sized enterprises.

The theoretical model associated with these hypotheses is shown in Fig. 1.

Methodology

Participants and procedure

This research adopted a quantitative, non-experimental, cross-sectional design with the aim of analysing the relationship between digital innovation, innovation culture, creativity, and happiness at work. Data were collected during March 2024 through a structured questionnaire, administered digitally to a non-probabilistic convenience sample of 208 employees from various economic sectors, such as commerce, industry, services, and education. The selection of these sectors was based on their significant contribution to the economy and their role in fostering innovation and workplace dynamics.

The participants held different hierarchical positions within their organisations, including managerial, mid-level, and operational roles. The inclusion criteria required that participants were currently employed in a small or medium-sized enterprise in Mexico. Individuals working in large companies or who were self-employed were excluded to maintain the focus on the SME context. The study complied with ethical standards established by the Declaration of Helsinki, and the research protocol was reviewed and approved by the Research Ethics Committee of Autonomous University of Tamaulipas.

To ensure that the sample size was adequate for detecting significant effects in the multi-group analysis (MGA), a power analysis was conducted using G*Power 3.1.9.7. The analysis was set to MANOVA: Global effects, with an effect size ($f^2(V)$) of 0.0625 (moderate effect) [12], an alpha level of 0.05, and a desired power of 0.85. The results indicated that a minimum total sample size of 202 participants was required to achieve sufficient statistical power. Given that the study collected data from 208 participants, the statistical power remained above 0.85, ensuring robust sensitivity to detect differences between groups. Therefore, the sample size was deemed appropriate for the study's objectives.

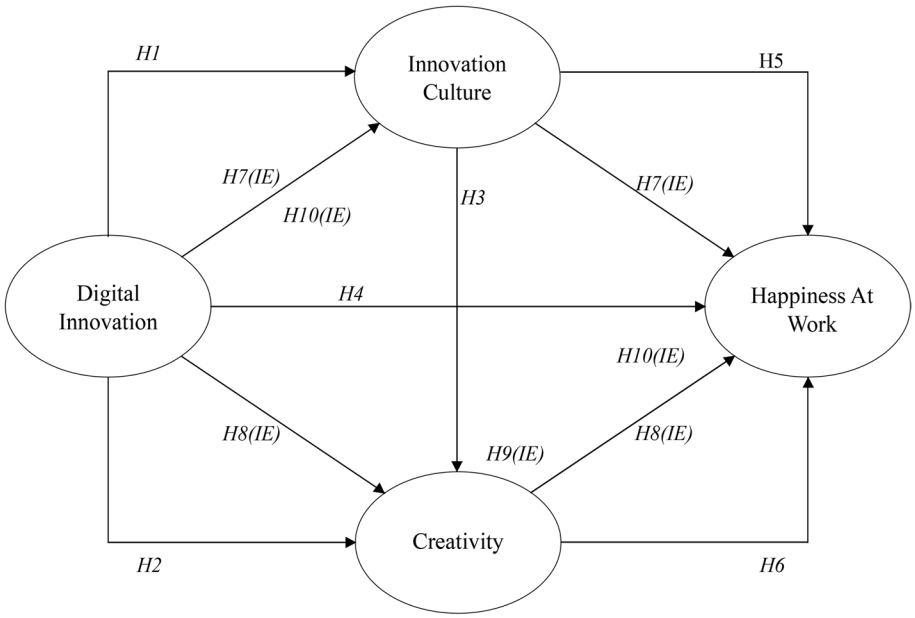

Fig. 1 Proposed theoretical model. Source: Author's own elaboration

Non-probabilistic sampling, while limiting generalizability, is frequently used in social sciences due to its efficiency and ability to capture specific population insights [40]. In this study, it provided access to a diverse set of SMEs across sectors, allowing for a focused analysis of the target population. Participation was entirely voluntary, and respondents answered questions related to the central variables of this study: digital innovation, innovation culture, creativity, and happiness at work. This methodology facilitated a holistic view of the connections between the variables, providing a broad understanding of the patterns observed in the participants' work environments.

Before administering the final questionnaire, a pilot study was conducted to assess the clarity, comprehensibility, and reliability of the measurement instruments. A total of 54 participants, who shared similar characteristics with the target population, were selected for this phase. These participants provided feedback on the clarity of the items, response format, and any ambiguities in the questions. Based on their input, minor modifications were made to improve the precision and understanding of the survey items. The results from the pilot study indicated that the questionnaire was well-structured and appropriate for the main study, ensuring the validity of the data collection process.

Table 1 presents the demographic and organisational characteristics of the sample. The gender distribution shows a slight predominance of women, which is consistent with Mexico's demographic population, with 52.40% women compared to 47.60% men. Regarding educational level, the majority of participants have a university degree (61.54%), followed by 18.27% with a postgraduate qualification. A total of 17.79% of the employees have completed secondary or high school education, while only 2.40% have primary education.

In terms of sector distribution, the largest proportion of participants work in the education sector (34.62%), followed by services (25.48%), commerce (22.60%), and industry (17.31%). With respect to the size of the companies where the participants work, more than half (56.73%) are employed in small companies, while 43.27% work in medium-sized enterprises. Regarding the age of employees, the average is 36.48 years (S.D. = 17.07), with a range from 18 to 70 years. Additionally, the average work experience of the participants within their companies is 8.51 years (S.D. = 7.95), with a range varying between 0 and 40 years.

Instruments

The instrument used for data collection was a questionnaire with a 5-point Likert scale, designed to measure the constructs of digital innovation, innovation culture, creativity, and happiness at work. A 5-point Likert scale was chosen for its simplicity and ease of use, particularly in applied research settings, where it effectively balances response variability and participant comprehension [39].

The digital innovation scale consisted of six items adapted from Paladino's scale [61], which assessed aspects such as the superiority and quality of digital solutions compared to competitors. An example item from

Table 1 Descriptive data

Variable	Options	Frequency	Percentage
Sex	Female	109	52.40%
	Male	99	47.60%
Level of education	Middle school or less	5	2.40%
	High school	37	17.79%
	Undergraduate school	128	61.54%
	Graduate school	38	18.27%
Sector	Commerce	47	22.60%
	Industry	36	17.31%
	Services	53	25.48%
	Education	72	34.62%
Size of Company	Small	118	56.73%
	Medium	90	43.27%
Variable	**Limits**	**Mean**	**S.D**
Age (years)	18 to 70 years	36.48	17.07
Company experience (years)	0 to 40 years	8.51	7.95

Source: Author's own elaboration

this scale is:"The digital solutions of my company are superior to those of our competitors."Meanwhile, innovation culture was assessed using three items adapted from Santos-Vijande et al. [77], focusing on the organisation's ability to foster an environment that supports new ideas and promotes organisational change.

Creativity was measured using twelve items adapted from the Zhou and George scale [90], which assesses creativity in work environments. Regarding happiness at work, this variable was evaluated using eleven items from the Ramírez-García et al. scale [66], covering aspects such as internal motivation and satisfaction with the work environment. An example item is:"I enjoy doing my job well."The combination of these scales allowed for an integrated view of participants'perceptions of innovation, creativity, and happiness within the workplace context. Appendix 1 details each item included in the questionnaire.

Data analysis technique

To explore the relationships between the variables of digital innovation, innovation culture, creativity, and happiness at work, Jamovi software version 2.3.28 was used. The analysis began with a univariate exploration of the variables, including the calculation of central tendency measures, such as the mean, mode, and standard deviation, as well as the evaluation of skewness and kurtosis, to verify the internal consistency of the items that make up each construct.

Next, an exploratory factor analysis (EFA) was conducted to calculate Cronbach's Alpha coefficient and assess the instrument's reliability. Following this, multivariate analysis techniques were applied, including Structural Equation Modelling (SEM) using the CB-SEM approach, to validate the proposed model and examine the relationships between the variables. This approach was selected due to its ability to handle theoretical variables that are rarely modelled and for its predictive rather than confirmatory focus [22].

The cross-sectional design employed in this study restricts causal inferences between variables. Future research should consider longitudinal methods to establish causality and explore temporal dynamics. Finally, a multigroup analysis (MGA) was performed to investigate differences in the relationships between variables according to the size of the company in which participants work. This analysis is appropriate for identifying potential variations in the effects of explanatory variables across different demographic groups, as suggested by Homburg et al. [39].

Results and discussion

Exploratory factor analysis (EFA)

An exploratory factor analysis (EFA) was conducted to assess the validity of the constructs, and the reliability of the variables studied, based on the factor loadings of each item, eigenvalues, and communalities (Table 2). The results of this analysis show that the data meet the conditions for construct validity, making the measurement instrument suitable for capturing the dimensions studied.

Initially, the correlations between items showed significant associations, ranging from moderate to high in all cases, indicating that the items are strongly related to each other, supporting the validity of the

Table 2 Exploratory factor analysis

Variable	Digital innovation	Innovation culture	Creativity	Happiness at work
Correlations between items	0.855 <—> 0.942	0.889 <—> 0.931	0.814 <—> 0.955	0.644 <—> 0.928
Level of correlations	High	High	High	High
Significance	0.000	0.000	0.000	0.000
Determinant	0.00005533	0.023	3.4E-11	3.09E-08
Communalities	0.861 <—> 0.923	0.920 <—> 0.949	0.864 <—> 0.937	0.713 <—> 0.859
Level of communalities	Adequate	Adequate	Adequate	Adequate
KMO Test	0.923	0.774	0.968	0.950
Barlett´s test	0.000	0.000	0.000	0.000
Total varience explicated	90.67%	93.74%	90.26%	81.69%

Source: Author's own elaboration

constructs studied. High correlation values (> 0.5) indicate significant relationships between items and constructs, as suggested by Hair et al. [36, 37]. Additionally, the KMO (Kaiser–Meyer–Olkin) test provided an adequate measure of sampling adequacy, with values above the acceptable minimum of 0.700 in all cases. According to Field [28], a KMO value above 0.6 indicates acceptable adequacy for factor analysis. In this study, KMO values above 0.9 suggest excellent adequacy for factor analysis [45]. Similarly, Bartlett's Test of Sphericity was significant ($p < 0.001$). The significance of this test indicates that the variables are appropriate for factor analysis [11]. Finally, the variance explained by each variable was above 50%, which is considered an adequate level to establish construct validity [36, 37]. Therefore, explained variance values above 80% indicate that the selected items are representative and adequately capture the variability of each construct.

Structural equation modelling

The analysis process included the evaluation of model fit and construct validity using Jamovi software. This allowed for a detailed assessment of the relationships between digital innovation, innovation culture, creativity, and happiness at work, providing a solid basis for interpreting the results and deepening the understanding of the dynamics between the variables analysed.

Convergent and discriminant validity

The evaluation of model validity was conducted using indicators of convergent and discriminant validity, following the methodological recommendations of Hair et al. [38]. First, convergent validity metrics were examined, including Cronbach's Alpha, composite reliability coefficients, and average variance extracted (AVE) for each construct (Table 3).

Cronbach's Alpha for all constructs exceeded the minimum threshold of 0.7, indicating good internal reliability. Cronbach's Alpha values between 0.7 and 0.8 are considered acceptable, while values above 0.8 suggest high internal consistency among the items [60]. In this case, all constructs showed a Cronbach's Alpha above 0.9, indicating excellent reliability. Regarding composite reliability (CR), all values exceeded the minimum threshold of 0.7 [38], indicating that the items consistently measure the constructs to which they are associated. Furthermore, the results showed that the AVE for all constructs exceeded the 0.5 threshold, indicating that a significant proportion of the variance of the items is explained by the constructs to which they belong [38]. With respect to discriminant validity (Table 4), according to the Fornell-Larcker criterion, the results indicate that the square root of the AVE for each construct is greater than the

Table 3 Convergent validity

Convergent Validity		Cronbach´s Alpha			Composite Reliability			AVE		
		Full sample	Small	Medium-Sized	Full sample	Small	Medium-Sized	Full sample	Small	Medium-Sized
1	**Digital innovation**	0.974	0.974	0.974	0.974	0.978	0.953	0.904	0.904	0.905
2	**Innovation culture**	0.967	0.977	0.951	0.967	0.968	0.953	0.907	0.934	0.871
3	**Creativity**	0.972	0.978	0.965	0.972	0.969	0.895	0.897	0.918	0.872
4	**Happiness at work**	0.973	0.974	0.972	0.973	0.967	0.974	0.900	0.903	0.898

Source: Author's own elaboration

Table 4 Discriminant validity

Discriminant validity									
		HTMT Criterion				Fornell-Larcker Criterion			
		1	2	3	4	1	2	3	4
1	**Digital innovation**					**0.904**			
2	**Innovation culture**	0.773				0.761	**0.907**		
3	**Creativity**	0.629	0.789			0.610	0.792	**0.897**	
4	**Happiness at work**	0.758	0.854	0.731		0.623	0.773	0.776	**0.900**

Source: Author's own elaboration

correlations between them, confirming the discriminant validity of the constructs [30]. Similarly, the HTMT criterion showed that all values remained below the critical threshold of 0.85, suggesting that the constructs are sufficiently distinct from each other [38].

Fit indicators

The fit indicators for the structural model were evaluated using a series of absolute, incremental, and parsimonious fit measures. These indicators were used to determine whether the proposed model adequately fits the data for both the total sample and the multigroup analysis (MGA). The results are presented in Table 5.

Regarding absolute or global fit, the CMIN (Chi-square) showed a value of 143 for the total sample and 297 for the multigroup analysis, which is considered a marginal fit. This result is not unexpected, as Chi-square tends to be sensitive to sample size [12]. Additionally, the associated *p*-value was 0.000 in both cases, which does not meet the acceptability criterion ($p > 0.05$). Although this might indicate a marginal fit, researchers have noted that the *p*-value is a weak indicator of goodness-of-fit [38].

Moreover, the SRMR (Standardized Root Mean Square Residual) was 0.015 for the total sample and 0.023 for the MGA, both within the acceptable range (SRMR < 0.08), suggesting a good fit between the observed and predicted matrices [40]. As for the RMSEA (Root Mean Square Error of Approximation), the value was 0.058 for the total sample, which falls within the acceptable fit range, while for the multigroup analysis the value was 0.086, which is still considered marginally acceptable [13].

Regarding the incremental fit indices, which include the CFI (Comparative Fit Index), IFI (Incremental Fit Index), and TLI (Tucker-Lewis Index), all showed values above the 0.900 threshold in both analyses. The CFI and IFI reached values of 0.988 for the total sample and 0.975 for the MGA, indicating an adequate model fit in both cases. These indices compare the specified model with a null model, and values above 0.900 suggest a good fit [40]. The TLI, on the other hand, showed values of 0.985 for the total sample and 0.968 for the MGA, which are also considered acceptable.

Finally, regarding the parsimonious fit measure, the PGFI (Parsimony Goodness-of-Fit Index) was 0.604 for the total sample and 0.587 for the MGA, indicating an acceptable fit. A value above 0.500 is indicative of a good fit in terms of parsimony, suggesting that the model is sufficiently simple to represent the data without overfitting [57].

Multigroup analysis

Initially, an invariance analysis was conducted to assess whether the measurements were equivalent across the groups. The results are presented in Table 6. This

Table 5 Measures of fit

Type of fit	Fit measure	Acceptance level	Full sample	MGA	Acceptability
Absolute or global	CMIN	CMIN = double of DF	143	297	Marginal
	P value	> 0.05	0.000	0.000	Marginal
	SRMR	< 0.08	0.015	0.023	Acceptable
	RMSEA	< 0.08	0.058	0.086	Acceptable
Incremental	CFI	> 0.900	0.988	0.975	Acceptable
	IFI	> 0.900	0.988	0.975	Acceptable
	TLI	> 0.900	0.985	0.968	Acceptable
Parsimony	PGFI	> 0.500	0.604	0.587	Acceptable

Source: Author's own elaboration

Table 6 Fit indices for invariance models

Model	X^2	ΔX^2	CFI	ΔCFI	RMSEA	ΔRMSEA	SRMR	AIC	BIC
Configural	297		0.975		0.086		0.023	7494.293	7834.722
Metric	303	−6	0.975	0	0.082	0.004	0.027	7478.459	7782.175
Scalar	318	−15	0.975	0	0.081	0.001	0.028	7471.349	7738.352

Source: Author's own elaboration

process began with the estimation of the configural model, which allowed for the examination of whether the underlying factor structure was comparable across the groups without imposing additional constraints. The results showed a good fit, with a CFI of 0.975 and an RMSEA of 0.086, suggesting that the constructs exhibit a consistent structure in both groups. Subsequently, the metric model was examined, where the factor loadings were constrained to be equal across the groups. The CFI remained at 0.975, with no changes compared to the configural model, and the RMSEA improved to 0.082, indicating that the factor loadings are equivalent between the groups, allowing for the comparison of latent relationships.

Finally, the scalar model was applied, in which additional constraints were imposed on the intercepts to assess the equivalence of the construct means. The results showed that the model fit remained stable, with a CFI of 0.975 and an RMSEA of 0.081, confirming that the construct means are comparable between the groups. Together, the three models displayed good fit indices, validating the comparability of the measurements between the groups, as proposed by Cheung and Rensvold, who state that a difference in CFI of less than 0.01 between models is indicative of invariance [18].

Subsequently, direct and indirect effects were evaluated using the multigroup analysis (MGA) technique to compare the relationships between small and medium-sized enterprises. As shown in Table 7, the direct effects reveal significant relationships between the proposed variables. For H1, the relationship between digital innovation and innovation culture shows positive and significant coefficients in the total sample ($\beta = 0.701$; $p < 0.001$), in small enterprises ($\beta = 0.759$; $p < 0.001$), and in medium-sized enterprises ($\beta = 0.621$; $p < 0.001$), with a moderate difference between the groups ($\Delta = 0.138$).

Regarding H2, the relationship between digital innovation and creativity is significant only in small enterprises ($\beta = 0.140$; $p < 0.10$), whereas it is not significant in the total sample ($\beta = 0.016$) and medium-sized enterprises ($\beta = -0.113$). The difference between the groups is notable, with $\Delta = 0.253$, suggesting a significant variation in how digital innovation impacts creativity in companies of different sizes. For H3, a positive and significant relationship was observed between innovation culture and creativity in the total sample ($\beta = 0.743$; $p < 0.001$), in small enterprises ($\beta = 0.640$; $p < 0.001$), and in medium-sized enterprises ($\beta = 0.869$; $p < 0.001$), with a difference between the groups of $\Delta = -0.229$. This indicates that the effect of innovation culture on creativity is stronger

Table 7 Hypothesis testing

Direct effect										
	Variables							Full Sample	Small Companies	Medium-Sized Companies	MGA Difference
H1	INCU	< –	DIIN					0.701 ***	0.759 ***	0.621 ***	0.138
H2	CREA	< –	DIIN					0.016	0.140 *	−0.113	0.253
H3	CREA	< –	INCU					0.743 ***	0.640 ***	0.869 ***	−0.229
H4	HAW	< –	DIIN					0.067	0.089	0.002	0.087
H5	HAW	< –	INCU					0.360 ***	0.210 **	0.533 ***	−0.323
H6	HAW	< –	CREA					0.447 ***	0.660 ***	0.269 **	0.391
Indirect Effect											
H7	HAW	< –	INCU	< –	DIIN			0.252 ***	0.160 *	0.331 ***	−0.171
H8	HAW	< –	CREA	< –	DIIN			0.007	0.093 *	−0.031	0.124
H9	HAW	< –	CREA	< –	INCU			0.333 ***	0.423 ***	0.234 **	0.189
H10	HAW	< –	CREA	< –	INCU	< –	DIIN	0.233***	0.321***	0.146 **	0.175

Source: Author's own elaboration

*, ** and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

in medium-sized enterprises. H4 was rejected for all groups.

Regarding H5, the relationship between innovation culture and happiness at work is significant across all groups. In the total sample, the coefficient is $\beta = 0.360$; $p < 0.001$, in small enterprises, it is $\beta = 0.210$; $p < 0.01$, and in medium-sized enterprises, it reaches $\beta = 0.533$; $p < 0.001$, with a difference of $\Delta = -0.323$ between the groups, suggesting that innovation culture has a stronger impact on happiness in medium-sized enterprises. For H6, the effect of creativity on happiness at work is positive and significant in the total sample ($\beta = 0.447$; $p < 0.001$), in small enterprises ($\beta = 0.660$; $p < 0.001$), and in medium-sized enterprises ($\beta = 0.269$; $p < 0.01$), with a difference of $\Delta = 0.391$, indicating that this effect is considerably stronger in small enterprises.

Regarding the indirect effects, in H7, it was observed that digital innovation indirectly influences happiness at work through innovation culture. This effect is significant in the total sample ($\beta = 0.252$; $p < 0.001$), in small enterprises ($\beta = 0.160$; $p < 0.05$), and in medium-sized enterprises ($\beta = 0.331$; $p < 0.001$), with a difference of $\Delta = -0.171$ between the groups. For H9, creativity mediates the relationship between innovation culture and happiness at work, being significant in the total sample ($\beta = 0.333$; $p < 0.001$), in small enterprises ($\beta = 0.423$; $p < 0.001$), and in medium-sized enterprises ($\beta = 0.234$; $p < 0.01$), with a difference of $\Delta = 0.189$, suggesting that the mediation is stronger in small enterprises.

Finally, in H10, an indirect effect is evaluated in which digital innovation affects happiness at work through innovation culture and creativity. This effect is significant for all groups: $\beta = 0.233$; $p < 0.001$ for the total sample, $\beta = 0.321$; $p < 0.001$ for small enterprises, and $\beta = 0.146$; $p < 0.01$ for medium-sized enterprises, with a difference of $\Delta = 0.175$.

On the other hand, Fig. 2 presents the structural model developed for the analysis of the entire sample, which reveals the relationships between the variables of digital innovation, innovation culture, creativity, and happiness at work. The arrows represent both direct and indirect effects between the proposed variables, showing the influence of both innovation and creativity on happiness at work.

The R^2 values obtained for innovation culture ($R^2 = 0.579$), creativity ($R^2 = 0.627$), and happiness at work ($R^2 = 0.672$) indicate that the model explains a significant percentage of the variability in each of these variables. According to the interpretation criteria for R^2 in social sciences, where values between 0.33 and 0.67 are considered moderate and values above 0.67 are considered high [20], the results suggest that the proposed model has an adequate fit to explain the relationships between these key variables. In particular, the R^2 for happiness at work (0.672) approaches a high level of variance, reflecting that the independent variables have a considerable impact on this dimension. Similarly, creativity ($R^2 = 0.627$) shows a good level of explained variance, indicating that the model accurately captures the factors that influence it. For innovation culture, with an R^2 of 0.579, the level of explained variance is classified as moderate, which is consistent with studies addressing complex organisational phenomena [36].

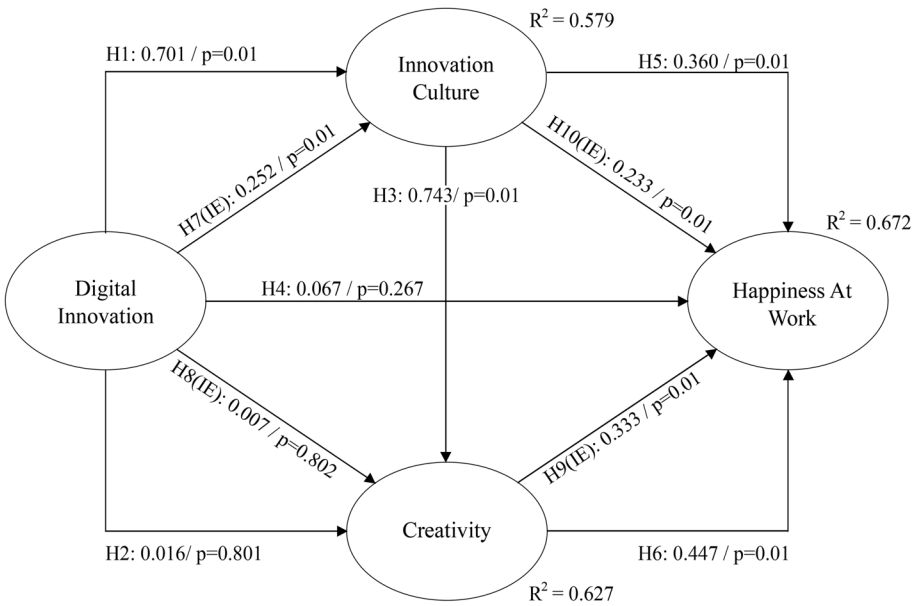

Fig. 2 Structural model (Total Sample). Source: Author's own elaboration

Discussion

The results obtained in this study provide a comprehensive perspective on the relationships between digital innovation, innovation culture, creativity, and happiness at work, particularly in the context of small and medium-sized enterprises (SMEs) in Mexico. These findings are aligned with existing literature, which underscores the importance of digitalisation and innovation in enhancing organisational performance and employee well-being [6, 52].

Regarding hypothesis H1, the results confirm that digital innovation positively and significantly influences innovation culture in both small and medium-sized enterprises. This is consistent with prior studies such as Appio et al. [8], which highlight the role of digitalisation in fostering dynamic and collaborative organisational environments conducive to innovation. The moderate difference observed between small and medium-sized enterprises ($\Delta = 0.138$) suggests that smaller companies may be more agile in adopting digital technologies, while medium-sized enterprises may face structural or resource-related challenges [24].

For hypothesis H2, digital innovation significantly impacts creativity only in small enterprises. This finding reflects the greater organisational flexibility in small enterprises, which enables employees to leverage digital tools effectively to generate creative ideas. This aligns with Wikhamn and Styhre [85], who demonstrated that less rigid organisational structures allow employees to interact more dynamically with digital technologies. Conversely, in medium-sized enterprises, the effect of digital innovation on creativity is not significant and is even negative. Organisational complexity and insufficient support during the implementation of digital technologies may hinder creativity, as suggested by Jiang et al. [43].

Hypothesis H3 reveals that innovation culture significantly enhances creativity across all groups, with a stronger impact in medium-sized enterprises ($\Delta = -0.229$). This underscores the importance of formal innovation policies in medium-sized enterprises, which are necessary to foster creative expression in more structured environments [50]. In small enterprises, the inherent flexibility and adaptability reduce the dependence on formal innovation structures to stimulate creativity.

For hypothesis H5, innovation culture significantly influences happiness at work, with a more pronounced effect in medium-sized enterprises ($\Delta = -0.323$). This finding highlights the importance of fostering an innovation-driven environment to enhance job satisfaction, particularly in organisations where employees may feel disconnected from decision-making processes [80]. In small enterprises, the impact is less significant, likely because their work environments already promote greater employee participation and autonomy.

Creativity, as tested in hypothesis H6, has a significant positive effect on happiness at work, with a stronger impact in small enterprises ($\Delta = 0.391$). Employees in smaller organisations often experience higher levels of job satisfaction through creative engagement, consistent with findings by Aldabbas et al. [3]. In medium-sized enterprises, the impact is comparatively weaker, suggesting that structural and procedural factors may limit opportunities for creativity to influence employee well-being fully.

For hypotheses H7, H9, and H10, the mediating roles of innovation culture and creativity in the relationship between digital innovation and happiness at work were confirmed. Medium-sized enterprises exhibited stronger indirect effects through innovation culture ($\beta = 0.331$; $p < 0.001$), reinforcing the importance of a comprehensive strategy that integrates technology with organisational culture and creativity [76]. In small enterprises, the relationships were more direct, reflecting their less hierarchical structures and greater agility.

Hypothesis H11, which proposed differences in the dynamics of digital innovation, innovation culture, creativity, and happiness at work between small and medium-sized enterprises, was also confirmed. Organisational size significantly influences these relationships, as highlighted by studies on SME structural particularities [25, 52]. Small enterprises benefit from the direct impact of digital innovation on creativity and happiness, reflecting their adaptability and employee autonomy [85]. However, as shown by Ravina-Ripoll et al. [69], digitalisation can improve well-being only when employees have autonomy to use these technologies creatively. Poorly managed digitalisation, as noted by Frinaldi et al. [31], can lead to technological overload, reducing employee happiness.

In medium-sized enterprises, innovation culture plays a critical mediating role. The greater complexity and formality of these organisations make innovation culture an essential driver for leveraging digital innovation and fostering employee well-being. Studies such as those by Marić et al. [50] and Silva and Coelho [80] highlight that without a supportive organisational culture, digital technologies alone are insufficient to enhance happiness at work. Misalignment between organisational culture and technological strategies, as demonstrated by Minetaki and Bunno [56], can hinder the effective implementation of digital innovations, limiting their potential to foster creativity and happiness.

Conclusions

Summary of the results

The analysis of the results confirms that the relationships between digital innovation, innovation culture,

creativity, and happiness at work are complex and vary between small and medium-sized enterprises. First, digital innovation was found to have a positive impact on employee creativity, especially in small companies, where organisational structures tend to be more flexible, allowing for greater experimentation and autonomy. However, in medium-sized enterprises, this impact is less pronounced, as the implementation of digital technologies is often subject to more rigid and bureaucratic processes, limiting the creative potential of employees. The findings also show that in small enterprises, digital innovation has a direct and notable effect on happiness at work. In contrast, in medium-sized enterprises, the effect of digital innovation on happiness is more indirect, requiring a mediating innovation culture to bridge this connection.

Additionally, the results reveal that innovation culture is an essential condition for digital innovation to have a significant impact on happiness at work. Without an organisational culture that actively supports creativity and risk-taking, digitalisation alone does not seem to generate a substantial increase in workplace well-being. In this sense, companies that foster collaboration, autonomy, and innovative thinking not only manage to increase the creativity levels of their employees but also see improvements in job satisfaction and happiness, especially when employees feel that their ideas are valued and that they have the freedom to implement them.

Creativity, on the other hand, showed a direct effect on happiness at work, particularly in small companies, where employees experience higher levels of satisfaction by actively participating in the development of creative solutions. In contrast, in medium-sized enterprises, while creativity also influences workplace well-being, the effect size is smaller. These findings underline the need for tailored organisational approaches, where medium-sized companies should focus on structured creativity strategies, and small enterprises should leverage their natural flexibility to maximise employee happiness.

At this point, we can confirm, based on the results, that company size influences how these variables interact. While small companies seem to benefit more directly from flexibility and dynamism in the implementation of innovations, medium-sized companies need to strengthen their organisational culture to maximise the positive effects of digitalisation and creativity on employee happiness.

Theoretical contributions

The theoretical contributions of this research extend and expand upon Amabile's Componential Theory of Organisational Creativity [5], by integrating variables that not only influence creativity but also have a direct impact on happiness at work. This study adds value by suggesting that happiness at work is not merely a desirable organisational outcome, but rather an indispensable element that emerges from the interaction between digital innovation, innovation culture, and creativity. By demonstrating that creativity, driven by organisational culture and the use of innovative technologies, is directly related to employee happiness, the understanding of how intrinsic motivation and the work environment can enhance both productivity and personal satisfaction is broadened.

A key contribution of this study is the way it highlights the synergy between organisational variables and how their interaction generates significant effects on creativity and happiness. While digital innovation is an important facilitator, it can only enhance creative outcomes when accompanied by an organisational culture that fosters experimentation and innovative thinking. This connection between the tools provided by digital innovation and a supporting organisational culture reinforces the idea that an ethical foundation is critical for creativity and employee satisfaction [53].

Additionally, the multigroup analysis between small and medium-sized enterprises adds a new dimension to the theory. This approach enables an understanding that the effects of innovation and creativity are not homogeneous across all organisations. Small enterprises, with their more flexible structures, show a more direct relationship between creativity and digital innovation, resulting in a greater impact on employee happiness. Medium-sized enterprises, however, demonstrate that a robust innovation culture is critical for enabling the indirect effects of digital innovation on happiness, particularly in more structured environments. This finding adds theoretical value by recognising that differences in size and organisational capacities modify the way these variables interact.

Practical implications

The practical implications of this study provide valuable guidance for organisations, particularly for small and medium-sized enterprises (SMEs) seeking to improve both their innovation capacity and employee happiness. First, the results underscore the importance of promoting an innovation culture within companies, as without an organisational environment that actively supports experimentation, risk-taking, and collaboration, digital innovation alone does not have a significant impact on creativity or happiness at work. Companies should focus on creating environments where employees feel motivated to

participate in creative processes and where their ideas are valued and supported.

Another important aspect is that SMEs can benefit significantly from the flexibility offered by their more agile organisational structures. Small enterprises, unburdened by the rigidity of large bureaucracies, can better leverage digital innovation to foster creativity among their employees, which, in turn, leads to greater job happiness. Medium-sized companies, on the other hand, should focus on strengthening their innovation culture to ensure that digitalisation and creative efforts translate into improvements in both productivity and employee satisfaction. Promoting a culture that fosters employee well-being and happiness, while aligning it with innovation efforts, can greatly enhance overall business performance [66].

Finally, management leaders in these organisations should recognise that happiness at work is not simply a desirable outcome but a strategic goal that can enhance productivity and talent retention. By adopting measures that promote creativity and the effective use of digital tools, companies can not only innovate more effectively but also create an environment where employees feel engaged and satisfied. Medium-sized enterprises should particularly invest in structured innovation programs, while small companies should continue leveraging their natural adaptability. Policies that encourage autonomy, recognition, and opportunities for creative contribution are essential for achieving this balance between innovation and organisational well-being.

Limitations and future research directions

While this study offers theoretical and practical contributions, it also presents certain limitations that should be considered. First, the research focuses on a multigroup analysis between small and medium-sized enterprises within a specific context, which may limit the generalisation of the results to other industries or regions. Additionally, the sample size, while sufficient for statistical analysis, may not fully capture the diversity of SMEs, affecting the broader applicability of the findings. The particularities of the business environment in Mexico may differ significantly from other countries, especially in terms of innovation policies, access to technology, and organisational culture. Therefore, future studies could expand this analysis to different sectors and geographic regions, and larger samples to verify the external validity of the findings.

Additionally, while our dataset presents high variability, particularly in age, this is a common characteristic in SME studies due to their diverse workforce composition [10]. Previous research suggests that age heterogeneity can contribute to innovation and workplace happiness, as different generations bring complementary skills and perspectives [3]. Moreover, despite this variability, our analyses confirm that the key relationships remain consistent, suggesting that factors such as organisational culture and leadership play a more significant role in shaping workplace happiness than demographic variations alone [2, 67].

It is important to note that while the study included participants from various economic sectors such as commerce, industry, services, and education, the primary focus of the analysis was on the differences based on firm size (small vs. medium-sized enterprises). Therefore, the study does not provide a sector-specific comparison of workplace happiness levels. Future research could explore this dimension to determine whether industry-specific factors influence workplace happiness and innovation.

Another limitation relates to the study's methodological design, which is based on cross-sectional data, preventing definitive causal relationships from being established between digital innovation, innovation culture, creativity, and happiness at work. Future studies could employ a longitudinal design to analyse how the implementation of innovation strategies and the promotion of a creative culture impact job happiness over time. Additionally, it would be valuable to include other mediating or moderating variables that may influence these relationships, such as leadership, continuous training, or organisational climate.

It is also important to consider the use of self-reported measures for all variables. Although widely used in organisational research, self-reports may be subject to biases such as social desirability, subjective perception, or consistency in responses. These factors could affect the objectivity of the results. Future studies are encouraged to triangulate data using alternative sources, such as supervisor ratings, behavioural observations, or objective performance indicators, to improve the robustness of findings.

Lastly, future research could explore the role of other emerging technologies, such as artificial intelligence or data analytics, in the relationship between creativity and happiness at work. As digitalisation progresses rapidly, it is relevant to examine how these more advanced tools may affect creative behaviour and employee happiness. Furthermore, more in-depth investigation could explore how cultural differences impact the way innovation culture and creativity influence employee happiness in different organisational contexts.

Appendix 1

Constructs and indicators

Construct	Code	Indicator	Authors
Happiness At Work	HAW1	At work, I receive a fair reward	Adapted from Ramírez-García et al. (2019)
	HAW2	The organisational climate in the company is good	
	HAW3	The bosses manage well	
	HAW4	The organisational climate in my work unit is good	
	HAW5	My internal motivation for my work is high	
	HAW6	My tasks in the company are well designed	
	HAW7	I like my job	
	HAW8	I have internal stability	
	HAW9	I feel objectively reasonable	
	HAW10	I have professional stability	
	HAW11	I enjoy doing my job well	
Creativity	CREA1	In my work, I often find new ways to approach problems	Adapted from Amabile et al. (1996)
	CREA2	I often come up with innovative ideas that can improve work processes	
	CREA3	My job allows me to use my creativity to find solutions	
	CREA4	I feel that I have the freedom to experiment with different approaches in my work	
	CREA5	My work environment encourages and supports the generation of creative ideas	
Digital Innovation	DIIN1	The quality of our digital solutions is superior to our competitors	Adapted from Paladino (2007)
	DIIN2	The features of our digital solutions are superior compared to those of our competitors	
	DIIN3	The applications of our digital solutions are totally different from those of our competition	
	DIIN4	Our digital solutions are different from those of our competitors in terms of product platform	
	DIIN5	Our new digital solutions are small enhancements to existing products	
	DIIN6	Some of our digital solutions are new to the market at the time of launch	
Innovation culture	CUIN1	Proposals for innovation are welcome in this organisation	Adapted from Santos-Vijande et al. (2012)
	CUIN2	The managers of this organisation are constantly looking for innovative ideas	
	CUIN3	Innovation is a fundamental part of the culture of this organisation	

Abbreviations

AVE	Average Variance Extracted
BANI	Brittle, Anxious, Nonlinear, and Incomprehensible
CB-SEM	Covariance-Based Structural Equation Modelling
CFI	Comparative Fit Index
CR	Composite Reliability
EFA	Exploratory Factor Analysis
KMO	Kaiser-Meyer-Olkin Test
MGA	Multigroup Analysis
PGFI	Parsimony Goodness-of-Fit Index
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling
SMEs	Small and Medium-sized Enterprises
SRMR	Standardised Root Mean Square Residual
TLI	Tucker-Lewis Index

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Authors' contributions
OM, MS and EG designed and developed the project; OM and MS collected the data; OM, MS, EG, RA and CA interpreted the results and prepared the manuscript. OM, MS, EG, RA and CA read and approved the final version of the manuscript.

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Data availability
Data is provided in the manuscript, if you need additional information, please request.

Declarations

Ethics approval and consent to participate
The study was submitted for approval by the ethics committee of Cetys Universidad, who, in accordance by the National Guideline for the Integration and Functioning of Research Ethics Committees, assessed the following aspects: (1) Scientific value; (2) Scientific relevance in the design and conduct of the study; (3) Selection of participants; (4) Proportionality of risks and benefits; (5) Independent evaluation; (6) Respect for participants; and (7) Informed consent. The research protocol was approved by the university's ethics committee, who granted a letter of approval that was submitted to the journal.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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