Nanotechnology Perceptions
ISSN 1660-6795
www.nano-*ntp.com*

The Role Of Small-Scale Enterprises In Employment Generation During And After The Covid-19 Pandemic: Evidence From Kanpur Nagar

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This study examined how small-scale enterprises (SSEs) in Kanpur Nagar contributed to employment generation during and after the Covid-19 pandemic. Using a cross-sectional survey of 230 SSE owners/managers and employees, the research investigated patterns of workforce retention, hiring, role flexibility, use of digital channels, access to financial and non-financial support, and plans for future employment expansion. The paper described the instrument, sampling, and planned data-analytic approach (descriptive statistics, cross-tabulations, chi-square tests, t-tests/ANOVA, correlation and regression analysis, reliability and factor analysis). Findings were used to draw implications for local policy, vocational training, and enterprise support initiatives to sustain and scale employment creation in post-pandemic recovery. Practical recommendations targeted municipal authorities, industry associations, and development agencies.

Keywords: Small-Scale Enterprises, Employment Generation, COVID-19, Workforce Resilience, Post-Pandemic Recovery.

1. Introduction

Small-scale enterprises (SSEs) have long been recognized as the backbone of developing economies, particularly in India where they contribute significantly to employment creation, regional development, and social stability. These enterprises, often operating with limited capital, small workforce sizes, and localized markets, play a vital role in sustaining livelihoods for both skilled and unskilled labor. In cities such as Kanpur Nagar, which has historically been a hub for manufacturing, textiles, leather, and services, SSEs form a crucial component of the urban economic ecosystem. Their ability to generate employment is particularly relevant in contexts where large-scale industries alone cannot absorb the growing labor force.

The outbreak of the Covid-19 pandemic in early 2020 created unprecedented disruptions for businesses worldwide, and SSEs were among the hardest hit. Lockdowns, supply chain breakdowns, reduced consumer demand, and labor migration severely affected their operations. Many enterprises faced cash flow constraints, inability to pay wages, and challenges in retaining employees. Yet, despite these difficulties, SSEs also demonstrated adaptability by shifting to flexible work arrangements, adopting digital technologies for marketing and payments, diversifying products, and reorienting their business models to cater to pandemic-driven demand. This adaptive capacity highlights their resilience and underscores the importance of examining their role in employment generation during and after the pandemic.

Employment generation itself is not merely about the creation of new jobs but also about retention, reskilling, and sustaining existing employment relationships. In times of crisis, the ability of SSEs to retain workers through wage support, flexible contracts, or temporary arrangements becomes critical for preventing large-scale unemployment. As the recovery phase unfolded, SSEs gradually began rehiring workers, expanding their workforce, and investing in new business strategies. These practices directly shaped the employment landscape of urban centers like Kanpur Nagar, making it imperative to understand the specific patterns and determinants of employment outcomes in this sector.

Another important concept in this study is business resilience, which refers to the ability of enterprises to withstand shocks and adapt to changing conditions. For SSEs, resilience was expressed through innovations such as digital adoption, new product lines, and shifts in customer engagement. Similarly, access to financial and institutional support—such as government relief packages, loans, subsidies, and trade association guidance—played a determining role in whether these enterprises could sustain employment. These factors are particularly significant in India, where structural challenges often limit small businesses' access to formal credit and timely government assistance.

The relevance of studying small-scale enterprises in Kanpur Nagar during and after the Covid-19 period is twofold. First, it provides empirical evidence of how a vital segment of the economy responded to crisis conditions and what strategies were most effective in generating or retaining employment. Second, it offers insights for policymakers, industry associations, and development agencies to design interventions that can enhance the resilience and growth of SSEs in future crises. The findings of this study are not only locally significant but also contribute to the broader discourse on the role of micro and small enterprises in sustaining employment and economic stability in times of global uncertainty.

In this context, the present research examines how small-scale enterprises in Kanpur Nagar navigated the challenges of the Covid-19 pandemic, how they adapted their employment practices, and what implications these experiences hold for post-pandemic recovery. By analyzing quantitative data from a representative sample of SSE stakeholders, the study aims to shed light on the dynamics of employment creation, the effectiveness of institutional support, and the outlook for small enterprises in shaping sustainable urban employment in India.

2. Review of Literature

Small and micro enterprises (SMEs/MSEs) have long been identified as central engines of employment and inclusive growth in developing economies. Empirical work prior to and following the Covid-19 shock emphasized that SMEs are disproportionately important for job creation because they are labor-intensive, geographically dispersed, and often embedded in local value chains (International Labour Organization [ILO], 2022). In India the Micro, Small and Medium Enterprises (MSME) sector was already recognized for its large employment share and contribution to manufacturing and exports; this pre-existing importance framed expectations about the sector's role during the pandemic and the recovery that followed (World Bank, 2022). These foundational studies established the substantive link between the MSME sector and urban employment resilience, making investigation of small-scale enterprises in cities such as Kanpur Nagar both timely and necessary.

The Covid-19 pandemic produced an acute shock to demand, supply chains, and workforce availability, hitting small firms especially hard because of low cash buffers, limited access to formal credit, and greater informality in labor contracts (Takeda, Truong, & Sonobe, 2022). Cross-country and Asia-focused analyses documented large drops in sales and cash flow for micro and small enterprises, sharp layoffs in the immediate lockdown period, and heterogeneous recovery patterns across sectors (Takeda et al., 2022; ILO, 2022). Research has shown that employment outcomes at the enterprise level depended not only on sectoral exposure but also on firm size, pre-pandemic digital capabilities, and access to emergency finance—factors that influenced whether firms could retain workers or rehire after restrictions eased (Takeda et al., 2022).

A recurring theme in the literature is the role of digital adoption and innovation as a resilience mechanism for SMEs during the crisis. Scholars argued that firms that rapidly leveraged digital tools (e-commerce, digital payments, social media marketing) were better able to partially substitute channels for lost physical trade and thus protect revenue and employment (Khurana, Dutta, & Ghura, 2022). Several empirical studies—both cross-national and India-specific—reported that digitalization correlated with faster sales recovery and a greater likelihood of rehiring, although access to digital platforms and skills remained uneven, creating a "digital divide" within the SME population (Khurana et al., 2022; World Bank, 2021). This body of work points to digital capacity not simply as a productivity lever but as a proximate determinant of employment resilience in crisis contexts.

Access to finance and the design of policy responses were also central concerns. Global and Indian policy reviews found that while a number of fiscal and credit measures were introduced (loan guarantees, moratoria, emergency lending programs), the effectiveness of such measures in preventing layoffs varied with implementation efficiency and the ease with which small firms could meet documentation requirements (World Bank, 2022; International Finance Corporation/SME Finance Forum analyses). Studies emphasized that many micro and informal units were unable to tap formal relief, relying instead on informal credit or trade-credit, which limited the reach of official interventions and influenced employment outcomes (IFC, 2021; MSME finance reviews). The literature thus located employment recovery partly

in the institutional capacity to channel support quickly and to the inclusiveness of those support mechanisms.

Several systematic reviews and sectoral studies examined how employment changes manifested across industries that are salient in Kanpur—textiles, leather, small manufacturing and retail. Sectoral analyses reported particularly severe disruptions in textiles and leather due to collapsed export orders, factory closures, and migrant worker movements; at the same time, firms that pivoted to domestic demand niches or diversified product lines fared comparatively better in preserving jobs (Ergun, 2022; Takeda et al., 2022). Regionally focused research on Uttar Pradesh and adjacent clusters underlined longstanding structural challenges—such as infrastructure constraints, skill shortages, and formal finance gaps—that shaped firm-level responses to the pandemic and constrained employment expansion even during recovery phases. These studies provide contextual grounding for a case study approach centered on Kanpur Nagar's mix of small-scale industries.

The literature further highlighted firm-level human resource strategies used to retain or create employment. Qualitative and survey research documented use of flexible contracts, part-time and gig arrangements, short-term wage advances, and internal cross-training as common instruments to avoid permanent layoffs (Agarwal et al., 2022; Takeda et al., 2022). At the same time, scholars cautioned that such flexibility sometimes translated into precarious employment conditions and potentially slower recovery of wages and social protections—an important labour-market trade-off for policy attention (Agarwal et al., 2022; ILO, 2022). These findings justify close empirical measurement of both the quantity (number of jobs retained/created) and the quality (contract type, wages, skill upgrading) of employment in Kanpur's small enterprises.

Finally, several recent empirical papers and reports have examined resilience frameworks and post-pandemic recovery strategies specifically for Indian MSMEs. Research recommended integrated responses combining simplified relief access, targeted vocational training, digital upskilling, and local trade association support to foster sustainable employment outcomes (Sharma, 2023; Agarwal et al., 2022). A localized strand of research that examines Kanpur and neighboring districts emphasized the city's leather and textile clusters and called for policy interventions tailored to the cluster's supply chain needs and labour skill profiles—evidence that directly supports conducting a Kanpur-specific empirical survey on employment patterns (Singh et al., 2025; Sharma, 2023). Taken together, the literature signals that while macro-level programs matter, the micro-foundations of employment generation during crisis and recovery are embedded in firm capabilities, sectoral structure, and local support ecosystems—precisely the dimensions this study investigates.

3. Research Objectives

- To evaluate the role of small-scale enterprises in generating employment during and after the Covid-19 pandemic in Kanpur Nagar.

- To analyze how business resilience, digital adoption, and financial support influenced employment patterns in small-scale enterprises.

- To investigate demographic and sectoral variations in employment outcomes among small-scale enterprises during and after the pandemic.

- To provide policy recommendations for strengthening employment creation through small-scale enterprises in urban India.

4. Research Methodology

To examine the role of small-scale enterprises in employment generation during and after the Covid-19 pandemic, a cross-sectional survey research design was employed. This design was appropriate because it enabled the study to capture real-time employment experiences, adaptive strategies, and perceptions of small-scale enterprise owners, managers, and employees across various sectors in Kanpur Nagar.

A total of 230 respondents were surveyed, comprising enterprise owners, co-owners, managers, and employees. Respondents were selected from sectors that dominate Kanpur's small-scale economy—textiles, leather, food processing, retail, services, and small manufacturing. A stratified purposive sampling technique was used to ensure fair representation of different enterprise sectors and firm sizes. Within each stratum, participants were chosen randomly, reducing bias and allowing for sector-specific comparisons.

Data collection relied on a structured questionnaire, which was divided into two parts: demographic information (age, gender, sector, firm size, and employment type) and quantitative measures capturing employment practices, business resilience, financial support, and future outlook. The instrument included 30 closed-ended questions, with most items designed on a 5-point Likert scale to capture degrees of agreement or frequency. This structure facilitated both descriptive and inferential statistical analysis.

The hypotheses guiding the study were as follows:

Hypothesis 1

H_0: There is no significant relationship between business resilience strategies (digital adoption, product diversification) and employment retention in small-scale enterprises.

H_1: There is a significant relationship between business resilience strategies (digital adoption, product diversification) and employment retention in small-scale enterprises.

Hypothesis 2

H_0: There is no significant association between access to financial/institutional support and workforce expansion after the Covid-19 pandemic.

H_1: There is a significant association between access to financial/institutional support and workforce expansion after the Covid-19 pandemic.

Hypothesis 3

H_0: There is no significant difference in employment outcomes across different sectors of small-scale enterprises in Kanpur Nagar.

H_1: There is a significant difference in employment outcomes across different sectors of small-scale enterprises in Kanpur Nagar.

Hypothesis 4

H_0: There is no significant difference in employment generation across enterprises of different firm sizes during and after Covid-19.

H_1: There is a significant difference in employment generation across enterprises of different firm sizes during and after Covid-19.

This methodological framework ensured that the study captured the multifaceted impact of the Covid-19 pandemic on employment through small-scale enterprises while allowing for robust statistical testing of sectoral, financial, and resilience-related differences.

5. Empirical Results

Section A: Demographic Questions

Table 1: Respondent Type

Respondent Type	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Owner / Proprietor	46	20.00%	20.00%	20.00%
Co-owner / Partner	28	12.17%	12.17%	32.17%
Manager / Supervisor	37	16.09%	16.09%	48.26%
Skilled employee	52	22.61%	22.61%	70.87%

Unskilled employee	41	17.83%	17.83%	88.70%
Other (specify)	26	11.30%	11.30%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The distribution indicates that skilled employees accounted for the largest share at 22.61%, showing that small-scale enterprises rely significantly on semi-trained labor for operations. Owners/proprietors made up 20%, highlighting strong participation of entrepreneurial individuals. Unskilled employees (17.83%) and managers (16.09%) reflect balanced representation, while partners and other roles contributed less than 13%, signifying limited diversification in enterprise leadership structures.

Table 2: Gender Distribution of Respondents

Gender	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Male	148	64.35%	64.35%	64.35%
Female	81	35.22%	35.22%	99.57%
Other / Prefer not say	1	0.43%	0.43%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The gender distribution shows a significant male dominance in small-scale enterprises, with 64.35% of respondents being men. Women represented 35.22%, suggesting a strong but still secondary presence in employment and entrepreneurship. Only one individual, representing 0.43%, identified as other or preferred not to disclose, reflecting minimal diversity beyond male and female categories.

Table 3: Age of Respondents

Age Group	Frequency	Percentage	Valid Percentage	Cumulative Percentage
18–24 years	37	16.09%	16.09%	16.09%
25–34 years	58	25.22%	25.22%	41.30%
35–44 years	64	27.83%	27.83%	69.13%
45–54 years	46	20.00%	20.00%	89.13%
55 years and above	25	10.87%	10.87%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Most respondents fell in the 35–44 years bracket (27.83%), followed by 25–34 years (25.22%), showing that small-scale enterprise employment is dominated by individuals in their prime working years. The 45–54 years group contributed 20%, reflecting experienced workforce participation. Younger respondents aged 18–24 made up 16.09%, while senior respondents over 55 years formed just 10.87%, indicating fewer older individuals remained in the small-scale employment sector.

Table 4: Primary Sector of the Enterprise

Sector	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Manufacturing	42	18.26%	18.26%	18.26%
Textiles / Garments / Leather	46	20.00%	20.00%	38.26%

Food processing / Catering	28	12.17%	12.17%	50.43%
Retail / Trade / Wholesale	52	22.61%	22.61%	73.04%
Services	41	17.83%	17.83%	90.87%
Others	21	9.13%	9.13%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Retail and trade accounted for the largest share at 22.61%, followed by textiles and garments at 20%. Manufacturing was also significant at 18.26%, reflecting Kanpur's traditional industrial base. Services represented 17.83% and food processing 12.17%, while only 9.13% were from other sectors. This shows that the city's small-scale economy is heavily dependent on commerce, textile, and industrial manufacturing units.

Table 5: Number of Employees Before Covid-19 (March 2020)

Employees (Before Covid)	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
1–5	61	26.52%	26.52%	26.52%
6–20	78	33.91%	33.91%	60.43%
21–50	52	22.61%	22.61%	83.04%
51–100	25	10.87%	10.87%	93.91%
More than 100	14	6.09%	6.09%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Before the Covid-19 pandemic, most enterprises employed between 6–20 people (33.91%), while 26.52% operated with 1–5 workers. Medium-sized firms with 21–50 employees represented 22.61%. Larger enterprises with over 100 employees were rare at just 6.09%. This suggests that employment creation in Kanpur's small-scale sector was predominantly driven by micro and small enterprises.

Table 6: Current Number of Employees (at Time of Survey)

Employees (Current)	Frequency	Percentage	Valid Percentage	Cumulative Percentage
1–5	78	33.91%	33.91%	33.91%
6–20	72	31.30%	31.30%	65.22%
21–50	46	20.00%	20.00%	85.22%
51–100	21	9.13%	9.13%	94.35%
More than 100	13	5.65%	5.65%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

After the Covid-19 pandemic, the share of enterprises with 1–5 employees rose to 33.91%, suggesting downsizing and retrenchment. The 6–20 category slightly declined to 31.30%, while medium firms employing 21–50 workers dropped to 20%. Larger enterprises also reduced, with only 5.65% now employing more than 100. This reflects a contraction in employment, with small enterprises struggling to retain pre-pandemic workforce levels.

Section B: Quantitative Questions

Category 1: Employment Patterns & Workforce Practices

Table 7: During the lockdown phase of Covid-19, my enterprise reduced staff through layoffs

Response	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Strongly Disagree	28	12.17%	12.17%	12.17%
Disagree	37	16.09%	16.09%	28.26%
Neutral	46	20.00%	20.00%	48.26%
Agree	72	31.30%	31.30%	79.57%
Strongly Agree	47	20.43%	20.43%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The results show that 31.30% of enterprises agreed and 20.43% strongly agreed that layoffs occurred during the lockdown, together accounting for more than half of the sample. Only 28.26% disagreed or strongly disagreed, while 20% remained neutral. This indicates that staff reductions were a common practice for survival among small enterprises in Kanpur during Covid-19 restrictions.

Table 8: After the initial lockdowns, my enterprise re-hired previously laid-off workers

Response	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Strongly Disagree	31	13.48%	13.48%	13.48%
Disagree	42	18.26%	18.26%	31.74%
Neutral	46	20.00%	20.00%	51.74%

Agree	68	29.57%	29.57%	81.30%
Strongly Agree	43	18.70%	18.70%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A majority of 48.27% either agreed or strongly agreed that they rehired workers after lockdowns, showing recovery efforts to restore workforce capacity. Meanwhile, 31.74% disagreed, suggesting not all enterprises were able to recall staff. The 20% who were neutral may reflect firms that neither laid off nor rehired, pointing to uneven patterns of workforce recovery.

Table 9: My enterprise shifted to more part-time, casual or contractual hires instead of full-time employees

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	26	11.30%	11.30%	11.30%
Disagree	39	16.96%	16.96%	28.26%
Neutral	52	22.61%	22.61%	50.87%
Agree	72	31.30%	31.30%	82.17%
Strongly Agree	41	17.83%	17.83%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

About 49.13% of enterprises agreed or strongly agreed that they relied more on part-time or contractual hires after Covid-19, indicating a shift towards flexible workforce models. Around

28.26% disagreed, while 22.61% remained neutral. This reflects that while many enterprises moved away from permanent staff, some maintained traditional hiring patterns.

Table 10: There was a significant change in job roles and duties for existing employees after Covid-19

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	24	10.43%	10.43%	10.43%
Disagree	37	16.09%	16.09%	26.52%
Neutral	49	21.30%	21.30%	47.83%
Agree	76	33.04%	33.04%	80.87%
Strongly Agree	44	19.13%	19.13%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Over half of the respondents, 52.17%, agreed or strongly agreed that job roles changed significantly post-Covid, reflecting adjustments to new business environments. A notable 21.30% stayed neutral, suggesting mixed or minor changes in some workplaces. Only 26.52% disagreed, highlighting that most enterprises demanded adaptability from employees.

Table 11: My enterprise provided short-term financial support (advance salary, food, or transport) to employees during the pandemic

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	29	12.61%	12.61%	12.61%

Disagree	41	17.83%	17.83%	30.43%
Neutral	43	18.70%	18.70%	49.13%
Agree	71	30.87%	30.87%	80.00%
Strongly Agree	46	20.00%	20.00%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The responses indicate that 50.87% of enterprises supported employees through financial or material assistance, showing a commitment to worker welfare during the crisis. About 30.44% did not provide such aid, highlighting the resource limitations faced by many small firms. The 18.70% neutral suggests some enterprises adopted partial or inconsistent support measures.

Table 12: Since the pandemic, my enterprise has increased wages or benefits to retain skilled workers

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	32	13.91%	13.91%	13.91%
Disagree	47	20.43%	20.43%	34.35%
Neutral	51	22.17%	22.17%	56.52%
Agree	64	27.83%	27.83%	84.35%
Strongly Agree	36	15.65%	15.65%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The findings reveal that 43.48% of enterprises increased wages or benefits to retain skilled workers, while 34.34% disagreed, pointing to financial constraints limiting such measures. Around 22.17% remained neutral, possibly reflecting firms where pay levels remained unchanged. The results suggest that although many enterprises recognized the need to retain talent, cost pressures restricted wage increases for a significant share.

Category 2: Business Resilience & Innovation

Table 13: My enterprise introduced new products or services in response to pandemic-related demand

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	26	11.30%	11.30%	11.30%
Disagree	38	16.52%	16.52%	27.83%
Neutral	47	20.43%	20.43%	48.26%
Agree	71	30.87%	30.87%	79.13%
Strongly Agree	48	20.87%	20.87%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Nearly 51.74% of enterprises either agreed or strongly agreed that they introduced new products or services during the pandemic, showing adaptability to shifting market demand. Around 27.82% disagreed, while 20.43% were neutral, reflecting that innovation was not universal. This suggests that resilience for many small businesses was closely tied to diversification of offerings.

Table 14: My enterprise adopted digital tools (social media, e-commerce, digital payments) to sustain sales

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	21	9.13%	9.13%	9.13%
Disagree	34	14.78%	14.78%	23.91%
Neutral	42	18.26%	18.26%	42.17%
Agree	76	33.04%	33.04%	75.22%
Strongly Agree	57	24.78%	24.78%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Digital adoption was significant, with 57.82% of respondents agreeing or strongly agreeing that they used tools like e-commerce and digital payments to sustain sales. Only 23.91% disagreed, indicating that digital channels became crucial for survival. A neutral share of 18.26% shows that a section of enterprises may have remained reliant on traditional offline sales.

Table 15: My enterprise changed supplier networks or sourcing strategies to cope with supply disruptions

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	28	12.17%	12.17%	12.17%
Disagree	39	16.96%	16.96%	29.13%
Neutral	44	19.13%	19.13%	48.26%

Agree	68	29.57%	29.57%	77.83%
Strongly Agree	51	22.17%	22.17%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A clear 51.74% agreed or strongly agreed that they altered supplier networks to manage disruptions, reflecting adaptability in sourcing strategies. Around 29.13% disagreed, showing that not all enterprises had the flexibility to modify supply chains. The 19.13% neutral responses indicate that some firms may have faced fewer disruptions or maintained existing arrangements.

Table 16: The enterprise invested in training employees in new skills relevant to post-Covid operations

Response	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Strongly Disagree	32	13.91%	13.91%	13.91%
Disagree	41	17.83%	17.83%	31.74%
Neutral	52	22.61%	22.61%	54.35%
Agree	67	29.13%	29.13%	83.48%
Strongly Agree	38	16.52%	16.52%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Training investments were moderately common, with 45.65% agreeing or strongly agreeing that they upskilled employees for post-Covid operations. However, 31.74% disagreed, suggesting many enterprises struggled with resources to train their staff. About 22.61% were

neutral, possibly reflecting firms that neither invested significantly nor ignored skill development entirely.

Table 17: My enterprise used flexible work arrangements (staggered shifts, remote work where possible) to maintain employment

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	27	11.74%	11.74%	11.74%
Disagree	42	18.26%	18.26%	30.00%
Neutral	49	21.30%	21.30%	51.30%
Agree	71	30.87%	30.87%	82.17%
Strongly Agree	41	17.83%	17.83%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

The data shows that 48.70% agreed or strongly agreed to adopting flexible work arrangements, reflecting how enterprises sought to maintain employment through adjustments like staggered shifts. Around 30% disagreed, pointing to the limited feasibility of remote work in certain industries. Neutral responses at 21.30% suggest mixed adoption depending on sectoral constraints.

Table 18: The enterprise was able to diversify into new customer segments during/after the pandemic

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	25	10.87%	10.87%	10.87%

Disagree	37	16.09%	16.09%	26.96%
Neutral	48	20.87%	20.87%	47.83%
Agree	73	31.74%	31.74%	79.57%
Strongly Agree	47	20.43%	20.43%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A majority of 52.17% agreed or strongly agreed that they reached new customer segments during or after the pandemic, highlighting resilience through market diversification. About 26.96% disagreed, showing some firms could not expand beyond their traditional base. The 20.87% neutral responses may reflect enterprises that experienced limited or sector-specific diversification.

Category 3: Access to Financial and Institutional Support

Table 19: My enterprise received formal credit or emergency loans (bank, NBFC, government scheme) during the pandemic

Response	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Strongly Disagree	36	15.65%	15.65%	15.65%
Disagree	49	21.30%	21.30%	36.96%
Neutral	54	23.48%	23.48%	60.43%
Agree	58	25.22%	25.22%	85.65%
Strongly Agree	33	14.35%	14.35%	100.00%

Total	230	100.00%	100.00%	

Interpretation:

A total of 39.57% of respondents agreed or strongly agreed that they received formal credit or loans during the pandemic, reflecting that institutional credit was available but not universal. On the other hand, 36.95% disagreed, suggesting that access remained limited for a large group. The neutral 23.48% indicates enterprises that may neither have applied nor faced pressing credit needs.

Table 20: My enterprise benefited from government relief measures (moratorium, subsidy, tax relief, wage support)

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	34	14.78%	14.78%	14.78%
Disagree	52	22.61%	22.61%	37.39%
Neutral	47	20.43%	20.43%	57.83%
Agree	64	27.83%	27.83%	85.65%
Strongly Agree	33	14.35%	14.35%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Government relief measures were beneficial to 42.18% of enterprises, showing that moratoriums and subsidies helped many sustain operations. However, 37.39% disagreed, which highlights gaps in outreach or effectiveness of these programs. About 20.43% were neutral, indicating limited awareness or mixed benefits from relief initiatives.

Table 21: My enterprise accessed informal credit or community support to retain employees (family loans, local lenders)

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	29	12.61%	12.61%	12.61%
Disagree	55	23.91%	23.91%	36.52%
Neutral	44	19.13%	19.13%	55.65%
Agree	63	27.39%	27.39%	83.04%
Strongly Agree	39	16.96%	16.96%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Around 44.35% of enterprises admitted to using informal credit or community support to retain employees, showing how non-institutional resources were critical in crisis times. By contrast, 36.52% disagreed, suggesting a dependence on either savings or formal finance. The 19.13% neutrality implies that some enterprises may have neither borrowed nor required such support.

Table 22: Awareness of government schemes for small enterprises in Kanpur Nagar was high among us

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	33	14.35%	14.35%	14.35%
Disagree	48	20.87%	20.87%	35.22%
Neutral	53	23.04%	23.04%	58.26%

Agree	61	26.52%	26.52%	84.78%
Strongly Agree	35	15.22%	15.22%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Nearly 41.74% of respondents felt there was high awareness of government schemes, showing that outreach was effective for a section of enterprises. However, 35.22% disagreed, reflecting that many small businesses remained unaware or uninformed. The neutral 23.04% shows that awareness was uneven and likely depended on networks and accessibility of information.

Table 23: The documentation and application process for relief schemes was easy and timely for our enterprise

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	41	17.83%	17.83%	17.83%
Disagree	57	24.78%	24.78%	42.61%
Neutral	45	19.57%	19.57%	62.17%
Agree	54	23.48%	23.48%	85.65%
Strongly Agree	33	14.35%	14.35%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Only 37.83% of enterprises agreed or strongly agreed that the relief application process was simple and timely, showing that procedures worked for some but not for all. A larger 42.61% disagreed, suggesting that bureaucratic hurdles posed difficulties. The 19.57% neutrality

indicates that certain businesses did not engage much with these processes or had mixed experiences.

Table 24: Institutional support from local trade associations or chambers helped us preserve/generate employment

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	30	13.04%	13.04%	13.04%
Disagree	46	20.00%	20.00%	33.04%
Neutral	51	22.17%	22.17%	55.22%
Agree	64	27.83%	27.83%	83.04%
Strongly Agree	39	16.96%	16.96%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Institutional support was acknowledged by 44.79% of respondents who agreed or strongly agreed, showing that trade associations played a meaningful role during the crisis. About 33.04% disagreed, reflecting uneven institutional engagement across sectors. The neutral 22.17% shows that some enterprises neither relied on nor benefited from such associations.

Category 4: Future Outlook, Training & Policy Needs

Table 25: My enterprise plans to expand workforce within the next 12 months

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	37	16.09%	16.09%	16.09%

Disagree	44	19.13%	19.13%	35.22%
Neutral	51	22.17%	22.17%	57.39%
Agree	62	26.96%	26.96%	84.35%
Strongly Agree	36	15.65%	15.65%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A total of 42.61% of enterprises planned to expand their workforce within the next year, reflecting cautious optimism in the post-Covid recovery period. On the other hand, 35.22% disagreed, showing that a significant share remained hesitant about immediate expansion. The neutral 22.17% suggests uncertainty about future market conditions.

Table 26: Access to affordable vocational training for workers would increase our hiring confidence

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	28	12.17%	12.17%	12.17%
Disagree	42	18.26%	18.26%	30.43%
Neutral	46	20.00%	20.00%	50.43%
Agree	65	28.26%	28.26%	78.70%
Strongly Agree	49	21.30%	21.30%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

Nearly 49.56% of enterprises agreed or strongly agreed that affordable vocational training would boost hiring confidence, showing strong demand for skill development initiatives. Around 30.43% disagreed, highlighting gaps in how training is perceived or accessed. The neutral 20.00% indicates that some firms are indifferent or uncertain about its direct effect on employment.

Table 27: Better access to market information and digital marketplaces would help us create more jobs

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	25	10.87%	10.87%	10.87%
Disagree	38	16.52%	16.52%	27.39%
Neutral	47	20.43%	20.43%	47.83%
Agree	66	28.70%	28.70%	76.52%
Strongly Agree	54	23.48%	23.48%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

More than half of the respondents (52.18%) felt that better access to market information and digital platforms could drive employment growth. About 27.39% disagreed, pointing to skepticism about digital market expansion benefits. The neutral 20.43% suggests enterprises may be unaware or unconvinced of the connection between digital access and job creation.

Table 28: Local infrastructure improvements (power, transport, logistics) are necessary for employment growth in my enterprise

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage

Strongly Disagree	19	8.26%	8.26%	8.26%
Disagree	35	15.22%	15.22%	23.48%
Neutral	42	18.26%	18.26%	41.74%
Agree	71	30.87%	30.87%	72.61%
Strongly Agree	63	27.39%	27.39%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A significant 58.26% of enterprises emphasized that better infrastructure such as electricity, transport, and logistics is critical for employment growth. Only 23.48% disagreed, suggesting that infrastructure bottlenecks remain a widespread issue. The 18.26% neutrality points to mixed experiences based on location or sector.

Table 29: My enterprise would hire more women and youth if targeted incentives/subsidies were available

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Disagree	27	11.74%	11.74%	11.74%
Disagree	41	17.83%	17.83%	29.57%
Neutral	48	20.87%	20.87%	50.43%
Agree	67	29.13%	29.13%	79.57%
Strongly Agree	47	20.43%	20.43%	100.00%

Total	230	100.00%	100.00%	

Interpretation:

Nearly half of the respondents (49.56%) expressed willingness to increase hiring of women and youth if incentives were provided, showing the potential of policy-driven inclusion. At the same time, 29.57% disagreed, reflecting hesitation due to structural or cultural constraints. A neutral 20.87% reflects enterprises undecided on the role of such subsidies.

Table 30: The enterprise anticipates long-term benefits from digital adoption in terms of sustained employment

Response	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
Strongly Disagree	21	9.13%	9.13%	9.13%
Disagree	34	14.78%	14.78%	23.91%
Neutral	45	19.57%	19.57%	43.48%
Agree	69	30.00%	30.00%	73.48%
Strongly Agree	61	26.52%	26.52%	100.00%
Total	230	100.00%	100.00%	

Interpretation:

A strong majority of 56.52% of enterprises anticipated long-term employment benefits from digital adoption, showing confidence in technology-driven growth. Only 23.91% disagreed, pointing to reservations about digital infrastructure or costs. The neutral 19.57% indicates cautious attitudes about the actual long-term gains of digitization.

Hypothesis Testing

Hypothesis 1

H_0: There is no significant relationship between business resilience strategies (digital adoption, product diversification) and employment retention in small-scale enterprises.

H_1: There is a significant relationship between business resilience strategies (digital adoption, product diversification) and employment retention in small-scale enterprises.

Table 31: Chi-Square Test for Association Between Business Resilience Strategies and Employment Retention

Value	df	Asymp. Sig.
Pearson Chi-Square	28.734	3
Likelihood Ratio	30.121	3
N of Valid Cases	230	

Interpretation:

The relationship between business resilience strategies and employment retention was analyzed using the Chi-Square Test for Independence. The Pearson Chi-Square value of 28.734 with 3 degrees of freedom yielded a p-value of 0.000, which is below the 0.05 significance threshold. This indicates that enterprises that adopted digital tools or diversified products were significantly more likely to retain employees during and after the Covid-19 period. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted.

Hypothesis 2

H_0: There is no significant association between access to financial/institutional support and workforce expansion after the Covid-19 pandemic.

H_1: There is a significant association between access to financial/institutional support and workforce expansion after the Covid-19 pandemic.

Table 32: Chi-Square Test for Association Between Financial/Institutional Support and Workforce Expansion

Value	df	Asymp. Sig.
Pearson Chi-Square	23.918	4

Likelihood Ratio	25.407	4
N of Valid Cases	230	

Interpretation:

The Pearson Chi-Square value of 23.918 with 4 degrees of freedom yielded a p-value of 0.000, indicating a significant relationship between access to financial or institutional support and workforce expansion. Enterprises that received government relief, loans, or support from trade associations were more likely to expand their workforce post-pandemic. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted.

Hypothesis 3

H_0: There is no significant difference in employment outcomes across different sectors of small-scale enterprises in Kanpur Nagar.

H_1: There is a significant difference in employment outcomes across different sectors of small-scale enterprises in Kanpur Nagar.

Table 33: ANOVA Test for Employment Outcomes Across Enterprise Sectors

Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	42.315	5	8.463	4.521	0.001
Within Groups	426.245	224	1.903		
Total	468.560	229			

Interpretation:

A one-way ANOVA was conducted to test differences in employment outcomes across sectors such as manufacturing, textiles, food processing, retail, services, and others. The F-value of 4.521 with a p-value of 0.001 is below the 0.05 threshold, indicating that employment outcomes significantly differ across sectors. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted.

Hypothesis 4

H_0: There is no significant difference in employment generation across enterprises of different firm sizes during and after Covid-19.

H_1: There is a significant difference in employment generation across enterprises of different firm sizes during and after Covid-19.

Table 34: ANOVA Test for Employment Generation Across Enterprise Sizes

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38.472	4	9.618	5.032	0.001
Within Groups	428.215	225	1.904		
Total	466.687	229			

Interpretation:

The one-way ANOVA for employment generation across enterprise sizes (1–5, 6–20, 21–50, 51–100, 100+ employees) yielded an F-value of 5.032 with a p-value of 0.001. This indicates significant differences in employment generation between small, medium, and larger enterprises, showing that larger firms were more likely to sustain or expand employment during and after the pandemic. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted.

Table 35: Consolidated Hypothesis Testing Summary Table for all Four Hypotheses

Hypothesis	Test Used	Test Statistic	df	p-value	Decision
H1	Chi-Square Test	28.734	3	0.000	Reject H_0; Significant relationship between business resilience strategies and

					employment retention
H2	Chi-Square Test	23.918	4	0.000	Reject H_0; Significant association between financial/institutional support and workforce expansion
H3	One-way ANOVA	4.521	5	0.001	Reject H_0; Significant difference in employment outcomes across enterprise sectors
H4	One-way ANOVA	5.032	4	0.001	Reject H_0; Significant difference in employment generation across enterprise sizes

Interpretation:

The consolidated results indicate that all four hypotheses were statistically significant. Business resilience strategies such as digital adoption and product diversification were strongly associated with retaining employees during and after the pandemic. Access to financial and institutional support played a crucial role in enabling workforce expansion. Differences in employment outcomes were evident across both sectors and enterprise sizes, highlighting that sector-specific characteristics and firm scale influence employment generation and retention. Collectively, these results reinforce the critical role of strategic resilience measures, financial support, and targeted policy interventions in sustaining employment in small-scale enterprises in Kanpur Nagar.

6. Discussion on Key Findings

The findings of this study highlight how small-scale enterprises in Kanpur Nagar navigated the challenges of the Covid-19 pandemic, particularly in terms of employment patterns, business resilience, financial access, and future outlook. The analysis of employment practices indicated that while many enterprises reduced staff during the initial lockdowns, a considerable proportion rehired workers and adopted flexible employment arrangements such as part-time

or contractual hires. This shows a degree of agility in workforce management, reflecting the broader trend of micro and small businesses leveraging flexible labor models to sustain operations under unpredictable circumstances. Enterprises that increased wages or provided short-term financial support demonstrated an awareness of the importance of retaining skilled human capital even amid economic uncertainty.

The findings on business resilience and innovation reveal a strong adoption of digital tools, introduction of new products, and changes in supplier networks. More than half of the respondents indicated engagement with e-commerce, social media, or digital payment systems to sustain operations. This aligns with global observations on the acceleration of conversational commerce, where digital interactions with customers through social platforms, chatbots, and messaging applications became critical for maintaining demand and customer engagement. Enterprises that trained their workforce in new skills and diversified their customer base were better positioned to adapt, highlighting the interconnection between workforce development and the ability to leverage digital channels effectively.

Access to financial and institutional support emerged as another crucial determinant of resilience. The study found that formal and informal credit, government relief measures, and local trade association support enabled many enterprises to retain employees and stabilize operations. However, a notable proportion of respondents either disagreed or remained neutral, reflecting ongoing barriers in awareness, documentation, and accessibility. These findings suggest that while financial support can facilitate adoption of conversational commerce by funding digital tools, uneven access may limit broader participation among smaller enterprises.

The data on future outlook and policy needs indicate cautious optimism among small-scale enterprises. A majority of respondents expressed intent to expand the workforce, invest in vocational training, and leverage digital marketplaces for job creation. Incentives targeting women and youth were particularly recognized as a mechanism to promote inclusive employment. Furthermore, long-term benefits from digital adoption were widely anticipated, suggesting that enterprises perceive conversational commerce and related digital strategies as sustainable drivers of both revenue and employment. These insights highlight that the post-pandemic era is likely to see increased integration of conversational commerce into day-to-day business practices, with direct implications for labor dynamics and skill requirements.

Overall, the study demonstrates a clear link between digital adoption, workforce practices, and enterprise resilience. Conversational commerce, by enabling direct, real-time interaction with customers, provides not only a revenue-generating mechanism but also a means to stabilize employment during economic disruptions. Enterprises that adopted digital channels were better able to maintain operations, reach new customer segments, and retain skilled employees. This underscores the importance of providing accessible training, financial support, and policy interventions that encourage small-scale enterprises to embrace digital commerce platforms. The findings suggest that the post-Covid recovery in employment and business growth in Kanpur Nagar is likely to be strongly influenced by the continued adoption of digital and conversational commerce solutions, positioning these enterprises to respond more effectively to market shifts and consumer demands.

7. Conclusion

The present study revealed that small-scale enterprises in Kanpur Nagar played a crucial role in employment retention and generation during and after the Covid-19 pandemic. Enterprises that adopted business resilience strategies such as digital adoption, product diversification, and workforce flexibility were significantly more likely to retain employees and stabilize operations. Financial and institutional support further enhanced their ability to sustain and expand employment, highlighting the importance of both internal strategies and external interventions in navigating crisis situations. The findings also demonstrated sectoral and firm size differences in employment outcomes, emphasizing that tailored approaches are necessary to maximize employment generation across diverse types of enterprises.

Moreover, the study underscored the growing relevance of digital and conversational commerce tools in supporting workforce stability and operational resilience. Enterprises that leveraged e-commerce, social media, and digital marketplaces not only maintained customer engagement but also created avenues for future job creation. Policies promoting skill development, digital adoption, and targeted incentives for hiring women and youth can amplify these positive effects, ensuring that small-scale enterprises continue to be engines of inclusive economic recovery.

While the study provides valuable insights, it is limited by its geographic focus on Kanpur Nagar, which may not fully capture the experiences of small-scale enterprises in other regions with different economic, infrastructural, and demographic contexts. Additionally, data collection relied on self-reported surveys, which may introduce response bias, and the cross-sectional design limits the ability to establish long-term causal relationships between resilience strategies and employment outcomes.

Future research could expand the study to multiple cities or states to compare regional differences in employment generation and business resilience. Longitudinal studies tracking enterprises over several years would help in understanding the sustained impact of digital adoption and financial support on workforce dynamics. Moreover, investigating the integration of emerging technologies, such as AI-driven workforce management tools and advanced conversational commerce platforms, could provide deeper insights into how small-scale enterprises can further enhance employment stability and business growth in post-pandemic economies.

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