

Bridging Employability Gaps for MSME Hospitality Enterprises: A Skills and Industry Alignment Study

Gaurav Bathla, Amiya Bhaumik, Shripada Dinesh Patil

Abstract: *The hospitality industry is dependent on Micro, Small, and Medium Enterprises (MSMEs), which are most important in the creation of employment and the economic development as a result of the tourism industry in the economy. Nevertheless, there is a consistent disconnect between the competencies of the workforce and the MSME hospitality enterprise competencies. Such an incompatibility has caused decreased productivity, low quality of service, and sluggish growth of the enterprise. This research aims at investigating skill gaps in employability of MSME hospitality businesses and also investigating the competencies and skills of the workforce and their correspondence with industry demands. The research is a mixed study method, which involves survey data collection and statistical analysis. A total of 210 respondents collected the data (hotel owners, restaurant managers, and hospitality employees in the local tourism clusters). Evaluation of the relationship between training exposure and employability readiness was done using descriptive statistics, skills-gap indexing and a correlation analysis. The findings reveal that about 64% of the employees do not possess industry-related soft skills, including communication and customer services, and 58% of them do not show adequate technical skills concerning online booking and hotel management. Businesses that used formal training courses were found to have an increase of 31 percentage points in employee productivity index and 26 percentage point in customer satisfaction ratings. Moreover, the regression analysis indicates that there is a significant positive correlation ($r = 0.72$) between the indicators of enterprise performance and the skill alignment. The results emphasize the role of industry-led training systems, workforce-level vocation, and skill development programs to minimize the gaps in employability. The paper finds that by improving the partnership between training providers and MSME hospitality businesses, it is possible to improve the workforce preparation and sustainability of the sector considerably.*

Keywords: MSME hospitality enterprises, employability skills, skill gap analysis, workforce development, industry–academia alignment, vocational training, hospitality workforce productivity.

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Introduction

The hospitality industry has Micro, Small, and Medium Enterprises (MSMEs) which form an essential part of the local and regional economies, especially the food services, lodging, and small travel-related businesses in the areas with tourism as a major sector. These businesses are small hotels, guest houses, restaurants, cafes, catering services and home-based hospitality businesses which have limited capital but have high labour intensity. The MSME hospitality ecosystem does not only encourage the entrepreneurship, but also ensures a wide range of employment to the youth, semi-skilled employees, and local communities. Research shows that hospitality MSMEs are economic multipliers as they trigger other related industries including agriculture, transport, and local crafts, which make tourism economies in regions more robust, and such tourism encourages inclusive development (Sanguino et. al., 2025). Tourism and the rise of service-based economies have further intensified the need to have skilled labour in MSME based hospitality enterprises and therefore workforce competency is becoming a critical factor that defines operational success and quality of services (Purnomo et. al., 2025).

The skills of workforce are core determinants to the efficiency, competitiveness and sustainability of hospitality businesses. Hospitality services are strongly reliant on human interaction, and the job of employees is to provide customer experiences in terms of communication, service etiquette, problem-solving, and technical operations, including reservation systems and digital payment systems (Sorte. et al. 2025.). Competent workers help to enhance service delivery, customer satisfaction, and repeat visit and these are all factors that affect directly the productivity and profitability of an enterprise (Fresner et. al., 2025). Studies point out that firms that invest in training and developing talent in their employees tend to have better operations, resource exploitation and competitive advantages in the market (Kawane et. al., 2024). The shortage of a skilled workforce is even more important in the context of MSMEs, in which resources and organizational systems are fairly limited, to retain the level of service quality and meet the evolving tourism demands (Sánchez et. al., 2025).

There is still a considerable employability gap in the MSME hospitality industry, despite the crucial role of the workforce competencies. The problem of employee recruitment to provide high-quality services with the necessary soft skills, in addition to professional skills, is reported by many hospitality enterprises. The causes of such gaps are often related to the lack of access to formal training programs, the obsolescence of curricula in vocational education, as well as insufficient cooperation between the educational organizations and stakeholders in the industry (Daskalakis et. al., 2025). Consequently, the recent entrants into the hospitality workforce often do not possess the skills related to customer relationship management, digital reservation processing, and cross-cultural communication that are fundamental to the contemporary work of the hospitality industry (Machado et. al. 2024). These skills incompatibilities lower the efficiency of services, add more difficulties in its operations, and decrease the growth potential of MSME businesses.

The issue that the research paper will help to solve is the increasing mismatch between the skills required by the MSME hospitality business and the competencies held by the existing labour force. This is an imbalance that acts as impediments to productivity, service revolution, and sustainable enterprise growth. The rationale of this study is that there is a need to systematically examine gaps in employability and find ways of enhancing skill match between the training institutions and industry demands. To improve the workforce preparedness, it is necessary to address this challenge in order to improve the competitiveness of hospitality MSMEs in a more service-based economy (Ghio et. al., 2025).

On this basis, the main aim of the research is to identify the current gaps in employability skills in the MSME hospitality businesses and determine the level of alignment between workforce skills and industry needs. The research also seeks to determine critical technical and soft skill gaps in the employees of the hospitality industry and evaluate the contribution of training programs towards enhancing the workforce preparedness. The research questions that will be used to conduct this study are: What are the key employability skill deficiencies in MSME hospitality enterprises? What is the impact of these skill shortfalls on the productivity of the enterprise and service quality? Which approaches can better match skills to the industry requirements of the workforce? This will be a study on MSME hospitality businesses, which are small hotels, restaurants as well as home-based food businesses but more specifically in relation to workforce competency development and skills enhancement which are industry specific.

Literature Review

The focus on employability skills has emerged as the key concept in hospitality and tourism studies due to the fact that the industry is largely based on human contact and service provision. The term employability skills is usually used to refer to a set of technical skills, interpersonal skills and professional attitude that allows individuals to secure jobs, work well in the job

market, and respond to changing needs of the labour market. These competencies in the hospitality and tourism industry comprise communication skills, customer service orientation, teamwork skills, culture awareness, and problem-solving skills. Scholars have highlighted that hospitality businesses require workers that not only have technical expertise of service operations, but also have a degree of emotional intelligence and professional behaviour when dealing with the customers. These skills play a major role in the quality of services and satisfaction of the customers of the businesses based on tourism (Syamsari et. al., 2022). Moreover, hospitality is a service-heavy industry, which means that employees have to develop their skills on a regular basis to keep with the dynamic trends on the market, technological penetration, and shift in customer demands (Esposito et. al., 2024).

The development of MSME in the hospitality industry has been in the limelight due to the role it plays in job creation and development of entrepreneurs in the local areas. The small-scale hospitality businesses work with limited financial and technological means, and therefore the competency of their workforce is the crucial factor in their survival as a business. Research indicates that the multi-skilled employees in the MSME hospitality enterprises are vital since they can undertake a variety of activities including customer services, reservations, food services, and online transactions. Since these businesses do not have structured trainings departments, the competency development among the workforce would pose a significant challenge and result in productivity disparities and poor service delivery. Scientists claim that the competence of workforce could be enhanced with the help of systematic training and skills development programs that could make enterprises much more competitive and have greater chances of growth in the long run (Basit et. al., 2024). The suitability between the industry demands and the academic education has become a pivotal point in solving the issue of employability in hospitality. According to several scholars, hospitality education programs are not always good in terms of their practicality in terms of skills required in the industry. This imbalance translates into the graduates joining the labour market with more theoretical skills than practical ones. The industry stakeholders, vocational training institutions, and academic programs should therefore work effectively to produce a workforce that fits the business needs of the industry. The relevant solutions to this gap have been identified as industry-academia collaborations, internship programs, and competency-based training models (Van et. al. 2021).

Besides formal education, the hospitality industry attaches a lot of importance to soft skills and technical skills. Soft skills consist of teamwork, interpersonal communication, adaptability, conflict resolution and cultural sensitivity; all of which are imperative towards providing high quality customer experiences. Technical skills, however, entail the knowledge of operations like food service management, the use of digital reservation system, point of sale technologies and hospitality information systems. As the digitalization of hospitality services gains momentum, the employees too are supposed to have entry-level digital literacy and technology-handling levels. Research has revealed that business organizations that employ workers with both soft and technical skills are more efficient in service delivery and their retention levels are enhanced (de Mello Santos et. al., 2022).

The analysis of the skill gap and the readiness of workforce in the hospitality and tourism sector has also been taken into consideration in various studies. These studies also state that there is a consistent report by the employers in the shortage of industry ready employee with specific focus on communication skills, service etiquette and use of technology. Based on the skill gap assessment, there are instances when workers joining hospitality businesses need extra education to match the business operations and service demands. This is why continuous skill development programs and competency-based training models can increase employability outcomes and performance of the workforce (Mostaghimi et. al., 2023). In addition, studies indicate that organizations that invest in workforce development programs have a higher level of productivity and organizational performance (Okello et. al., 2025). Although there is an increasing literature on the development of workforce in the hospitality industry, there are still a number of gaps in the research. Existing literature has put a lot of emphasis on large hotel chains and organized hospitality enterprises, whereas little research has been done on MSME hospitality enterprises, which constitute a large segment of the industry in the developing economies (Barapatre et al. 2025.). Moreover, in addition to the previous studies, a common approach of studying employability skills is done through either the employer or employee lens, as opposed to a combined approach in a detailed analytical context. The empirical evidence is also sparse on the direct impact of the skill alignment on the enterprise performance measures (e.g. productivity and customer satisfaction) in MSME hospitality enterprises. To overcome these gaps, systemic research should identify the competencies of the workforce, the training processes and the industry alignment in the context of MSME hospitality businesses (Rumanti et. al., 2026).

Table 1: Summary of Related Work on Employability Skills and Workforce Development in Hospitality MSMEs

| Study Focus | Sector / Context | Methodology Used | Key Skills Identified | Key Findings | Limitations |
|---|--|--|---|---|--|
| Employability skills in hospitality workforce | Tourism and hospitality industry | Literature review and industry surveys | Communication, teamwork, service etiquette | Employability skills strongly influence service quality and customer satisfaction in hospitality services | Limited empirical data on MSME hospitality enterprises |
| Workforce adaptability in hospitality sector | Global tourism service industry | Conceptual framework and secondary data analysis | Problem-solving, adaptability, customer interaction | Hospitality employees require continuous skill upgrading due to dynamic customer expectations | Lack of quantitative performance evaluation |
| MSME hospitality enterprise development | Small hotels and restaurants | Case studies and field surveys | Multi-tasking, operational skills, service management | Workforce competency directly impacts operational efficiency of small hospitality businesses | Focus limited to regional case studies |
| Industry-academia collaboration in hospitality education | Hospitality education institutions and enterprises | Mixed-method approach | Practical training, internship exposure, professional skills | Industry partnerships improve workforce readiness and employability outcomes | Limited focus on MSME training environments |
| Soft and technical skills requirements in hospitality | Hotel and service sector workforce | Survey-based empirical study | Customer service, digital reservation systems, POS technologies | Employees with combined soft and technical skills improve enterprise productivity | Technology adoption differences across enterprises |
| Skill gap analysis in hospitality employment | Tourism workforce and training institutions | Statistical skill gap assessment | Communication, customer handling, operational knowledge | Significant gap exists between training outcomes and industry skill expectations | Training effectiveness not measured longitudinally |
| Workforce training and enterprise performance | Hospitality organizations | Regression and performance analysis | Professional conduct, service management, teamwork | Enterprises investing in employee training achieve higher productivity and customer satisfaction | Study focused on organized hospitality sector |
| Employability and workforce readiness research | Hospitality and tourism education | Comparative research review | Vocational competencies, industry skills | Identifies need for stronger industry-oriented training models | Limited research on MSME hospitality ecosystem |

Theoretical Framework and Skill Alignment Model

Conceptual Framework for Employability Skill Alignment in MSME Hospitality Enterprises

The theoretical model of the alignment of employability skills within MSME hospitality accommodation centres is based on the correlation of the competencies of the workforce and industry demands and the performance results of the enterprise. The human capital is of high importance in MSME hospitality businesses that include small hotels, restaurants, and catering services as service delivery directly depends on the behaviour of the employees, their ability to operate, and the ability to interact with the customers. The framework presupposes the fact that the outcomes of employability are enhanced when the workforce competencies are in line with the operational requirements of hospitality enterprises. Here, the mediating factors include the training institutions, vocational programs, and on job training that play a role in determining the development of skills among employees. Employees leave the training facilities with increased preparedness and flexibility when they have training programs that incorporate the actual needs in the industries. The framework further emphasizes that the MSME enterprises are in need of a combination of both the technical knowledge, service-oriented attitude, and the digital operational skills in order to operate effectively in contemporary hospitality settings. The benefit of skill matching is in terms of better service quality, speed in service delivery, and the level of customer satisfaction. On the contrary, in case the training programs are not aligned with the industry expectations, there will arise a disparity between the skills provided by the workforce and the skills required by the enterprises. Such misalignment usually leads to a higher cost of training in the enterprises and low productivity. Thus, the conceptual model hypothesizes that a balanced system of ensuring the development of the workforce skills in response to the fluctuating market requirements in the hospitality sector, when industry stakeholders and training providers work in harmony, can be created.

Components of Workforce Competency (Technical Skills, Soft Skills, Digital Skills)

The competency of the workforce in MSME hospitality enterprises can be generally divided into three major elements, namely, the technical skills, the soft skills, and the digital skills. Technical skills are those related to operational knowledge and practical skills that are needed to handle tasks related to the hospitality industry effectively. These involve food preparation process, customer services operations, reservation processing, housekeeping functions and service management process. Workers with high technical competence are able to execute service operations correctly and effectively and this directly determines the quality of services and operational efficiency. Soft skills are interpersonal and behavioural skills that allow employees to relate well with their customers and fellow employees. Soft skills like communication skill, teamwork, emotional intelligence, problem solving and cultural sensitivity are a requirement in the hospitality business since hospitality services requires constant human contact. Having high soft skills, employees are capable of coping with customer expectations, addressing service problems, and generating positive guest impressions that promote the reputation of an enterprise. Digital skills are the skill to use the hospitality technology-based systems, which are online booking systems, point of sale systems, digital payment gateway and customer relationship management software. Since more and more hospitality businesses are embracing the use of digital platforms to accomplish business and customer communication, workers need to have basic technological knowledge. The combination of these three elements of competency also makes sure that employees can perform efficient, professional, and technologically assisted hospitality services.

Industry Demand–Skill Supply Mismatch Model

The model of demand-skill supply mismatch demonstrates how the gaps between the skills demanded by hospitality business and the competencies that the workforce possess can result in the gaps between the employability. This model emphasizes that the academic institutions and educational systems usually result in graduates who are well-versed in general theoretical understanding although MSME hospitality businesses need employees who have service-based and practical skills. The misfit is based on the inability to align the supply of skilled workforce with the operational requirements of hospitality companies. This has caused businesses to find it hard to hire industry ready employees and hence they have to undergo further training and have low productivity.

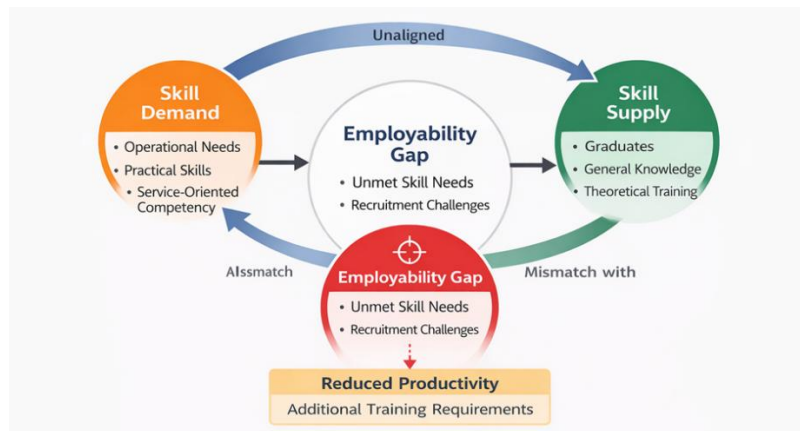


Figure 1: Industry Demand–Skill Supply Mismatch Model in MSME Hospitality Sector

The relationship between the industry skill demand, workforce skill supply, and the occurrence of the employability gap is found to be cyclical as depicted in figure 1. When the training institutions impart more than practical skills in producing more theoretical knowledge, they create a gap between the schools and the enterprises, resulting in recruitment problems, extra training needs, and low productivity in the MSME hospitality enterprises.

The mismatch model of working may be described in the following steps:

The step 1: It will determine the skill requirements of the MSME hospitality enterprises based on industry analysis and employer response.

Step 2: Evaluate the current competency level of the employees joining the workforce out of the training institutions.

Step 3: Match the industry demand with workforce skill supply to find out the level of the employability gap.

Step 4: Review the effect of the 4 recognized skill gap on the productivity and the quality of services by the enterprise.

Step 5: Establish specific training and industry-academia partnering mechanisms to help close the skills gap and enhance employee workforce.

Research Methodology

Research Design and Study Approach

The current research plans to use a mixed-method research design to investigate the gap in employability skills and industry compatibility in MSME hospitality ventures. The mixed-method approach combines quantitative and qualitative methods of research to give a well-rounded picture on workforce competency issues. Quantitative part aims of the research is statistical assessment of competencies gaps, competition of the workforce as well as the correlation between the skills of the workforce and the performance of an enterprise. The data obtained through the use of structured survey questionnaires on technical skills, soft skills, and digital competencies in hospitality employees is measurable. This numerical data allows using such statistical methods as descriptive statistics, correlation analysis, and regression modelling to establish trends and connections between skill alignment and enterprise productivity.

The qualitative element completes the quantitative analysis by gathering evidence on fieldwork within the hospitality enterprises in terms of owners, managers, and employees regarding actual workforce issues. Semi-structured interviews will be used to learn about the expectations of the employers, the skill requirements related to operations, and the training problems of MSME hospitality businesses. This qualitative data is used to explain the statistical results and give contextual explanations to existing skill gaps. The mixed-method approach is more credible and valid in the results of research since it integrates both numeric and experiential knowledge. By combining the two approaches, the study will be able both to measure the employability gap, as well as describe the cause behind the misfit between the competency levels of the workforce and the industry expectations in the MSME hospitality businesses.

Study Area and MSME Hospitality Enterprise Selection

The research targets all urban and semi-urban areas that are tourism oriented with the MSME hospitality businesses being concentrated. Representation of various kinds of hospitality business including small hotels, restaurants, cafes, and home-based food services are also guaranteed in the selection process.

Stepwise Selection Procedure

Step 1: Define the total population of MSME hospitality enterprises in the study region

N = Total number of MSME hospitality enterprises in selected tourism cluster

Step 2: Categorize enterprises based on type

$$N = H + R + C + F \tag{1}$$

Where

H = Small hotels

R = Restaurants

C = Cafés or snack outlets

F = Home-based food enterprises

Step 3: Determine enterprise selection proportion

$$P_i = \frac{N_i}{N} \tag{2}$$

Where

P_i = Proportion of enterprise category

N_i = Number of enterprises in category i

Step 4: Select enterprises using proportional allocation

$$E_i = P_i \times E \tag{3}$$

Where

E_i = Number of enterprises selected from category i

E = Total enterprises selected for the study

Step 5: Validate enterprise eligibility based on MSME classification

Investment \leq MSME threshold

Employee count within MSME hospitality limits

Step 6: Finalize enterprise dataset

$$E_{total} = \sum E_i \tag{4}$$

This is a systematic selection that is made to be sure that the various categories of business in hospitality industry are proportionately represented in research sample.

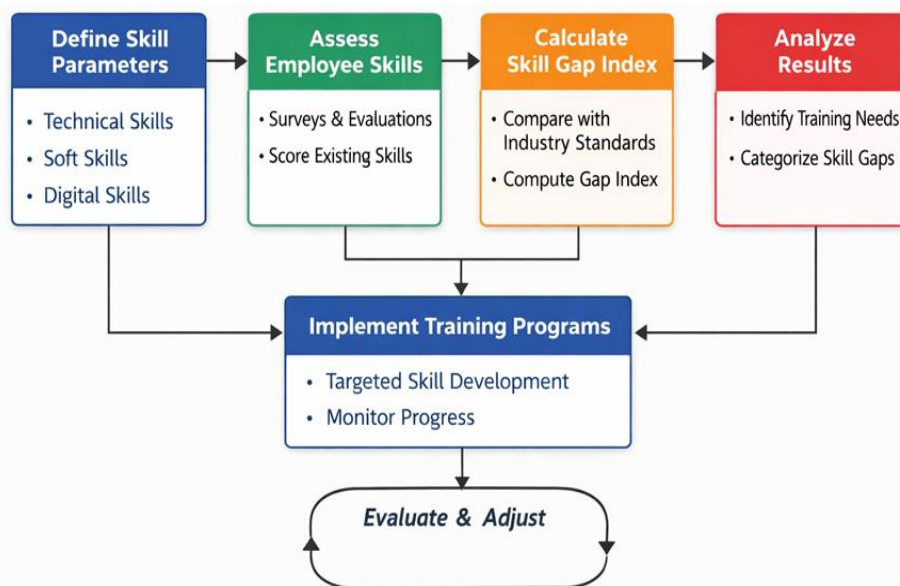


Figure 2: Skill Gap Identification and Workforce Training Framework for MSME Hospitality Enterprises

Figure 2 demonstrates a systematic workflow of the identification of the workforce skill gaps in MSME hospitality businesses. It starts with the definition of the skill parameters, evaluation of competencies of workers, and determination of a skill gap index. Targeted training programs are based on the results and there is a continuous evaluation and adjustment in the workforce readiness and enterprise performance.

Sampling Strategy and Respondent Categories

The study employs stratified purposive sampling technique to obtain the views of various stakeholders in MSME hospitality enterprises. Stratification will be used in order to create equal representation of different groups of respondents related to hospitality operations. The sampling frame consists of the owners of the enterprise, the managers of the restaurants and the employees of the hospitality services since these groups in totality represent the operational and management component of the hospitality business. The respondents will be divided into three major groups. The former group comprises owners of MSME enterprises who can give information on workforce needs, operational barriers and enterprise productivity indicators. The second category is that of hospitality managers who are in charge of operations in service provision, employee supervision, and the quality of service delivery. The third category consists of the service employees of the hospitality sector including reception, food service, house cleaning and customer service. These are the employees who form the working force whose competence directly determines quality of service delivery and satisfaction of the customer. The study has 210 respondents, which are sufficient to represent all the categories of respondents. The stratified sampling method enhances the validity of the research results because it helps to cover the different views of managers and operation levels in the MSME hospitality businesses.

Data Collection Methods

The research uses two main data collection tools namely structured survey questionnaires and semi structured interviews. The primary tool of quantitative data-gathering will be the survey questionnaire, which will be used to collect data concerning workforce competencies, training exposure, and employability readiness. The questionnaire will have several questions regarding the technical skills, soft skills, and digital skill competencies pertinent to the operation of a hotel. The respondents will be requested to rate their skills levels and working experiences using Likert-scale measure format. The responses of the survey will be in the form of numerical data which can be analysed statistically to determine cases of skills shortages and the correlation between exposure to trainings and workforce performance.

Semi-structured interviews are employed to supplement the survey data as the owners and the managers of the selected MSME hospitality enterprises are interviewed. The interviews will be conducted in terms of defining industry expectations, recruitment issues and training needs of hospitality workers. The interviews also cover employer views on productivity of the workforce and service quality improvement attributed to the skill development programs. The use of survey questionnaires and interviews together will make sure that both qualitative and quantitative indicators will be taken into consideration in the study. Such a two-fold data gathering procedure increases the level of analysis and helps the in-depth comprehension of the employability gaps in MSME hospitality companies.

Proposed Skill Gap Identification Algorithm

The proposed skill gap recognition algorithm will be used to selectively analyse workforce competencies and determine a skill match between the skills of employees and the needs of MSME hospitality enterprises. The algorithm assists enterprises in estimating technical, soft and digital capabilities of employees and creating an index of skill gap that can be measured and used to implement specific training interventions. It starts with the definition of the parameters of skills evaluation as the input. These parameters are the main areas of competency that will drive effective operations of hospitality services. The major input parameters are the level of technical skills (TS), soft skill ability (SS), digital skill ability (DS), training exposure (TE), and level of industry required competency (IR). The parameters of technical skills assess the operational skills in terms of food service management, reservation, and housekeeping processes. The parameters of soft skills measure the capability of communication, team working, customer service orientation and problem solving capability. The parameters of digital skills can be the measure of the employee capacity to use digital reservation systems, point-of-sale technologies, and online customer service platforms. Training exposure will show whether the employee has undergone formal or on-job training concerning

hospitality operations or not. The competency levels required by the industry are established in terms of the feedback of the MSME hospitality enterprise managers and operational standards.

Once the input parameters are determined, the algorithm generates the index of the skill gap where the required level of skill is used to compare against the current level of skill among the employees. The skill gap index is an indicator of the level of competency misfit to each employee or workforce category. An increased level of skill gap index implies more discrepancy between the competencies demanded and those available, meaning that special training programs are required. The algorithm analyses the individual competency dimension scores and subsequently produces a combination of the scores to produce a total score of employability readiness. This quantitative assessment enables businesses to focus on training aspects in which the gaps in the workforce are the greatest.

The incremental workforce competency evaluation algorithm works in a number of phases. In the first case, structured questionnaires and performance evaluation are used to gather employee competency data. Second, the industry feedback and operational standards are used to set the required skill benchmarks. Third, the algorithm calculates the gap between the demanded level of competence and the measured skill level of the employees on each parameter. Fourth, the differences are normalized to obtain a skill gap index of each employee. Fifth, the analysis of aggregated skills gap scores is done in order to determine areas of priority training among the enterprise workforce. Lastly, the algorithm generates a competency alignment report that identifies the skill gaps and provides the training recommendations.

Application of the suggested algorithm to the MSME hospitality enterprises presupposes the combination of the workforce assessment practices with the enterprise training strategies. The algorithm allows enterprise managers to periodically assess employee competencies and track the process of workforce development in the long run. The findings may be utilized to come up with specific skill development implementation plans that concentrate on training on operations, communication and adoption of digital technology. With the algorithm applied in a systematic way, MSME hospitality businesses can enhance the readiness of the workforce, minimise operational inefficiency, and raise the quality of the services provided by means of data-driven strategies of skills development.

Stepwise Skill Gap Identification Algorithm for MSME Hospitality Enterprises

Step 1: Define Skill Parameters

Identify the major competency categories required in hospitality enterprises.

Step 2: Define Employee Skill Dataset

Let

$$E = \{e_1, e_2, e_3 \dots e_n\} \quad (5)$$

Where

E = total employees evaluated

n = number of employees in MSME hospitality enterprises

Step 3: Assign Skill Scores

For each employee e_i , measure competency score using survey or evaluation scale.

TS_i = Technical skill score of employee i

SS_i = Soft skill score of employee i

DS_i = Digital skill score of employee i

Skill score range can be defined on a scale (1–5 or 1–10).

Step 4: Define Industry Benchmark

Define the required industry competency level.

IR_{TS} = Required technical skill level

IR_{SS} = Required soft skill level

IR_{DS} = Required digital skill level

Step 5: Compute Individual Skill Gap

For each employee i :

$$SG_{TS_i} = IR_{TS} - TS_i$$

$$SG_{SS_i} = IR_{SS} - SS_i$$

$$SG_{DS_i} = IR_{DS} - DS_i$$

Where SG represents the skill gap.

Step 6: Compute Overall Skill Gap Index

$$SGI_i = \frac{SG_{TS_i} + SG_{SS_i} + SG_{DS_i}}{3} \quad (6)$$

Where

SGI_i = Overall Skill Gap Index for employee i
 Step 7: Aggregate Enterprise Skill Gap
 Enterprise Skill Gap Index (ESGI)

$$ESGI = \frac{\sum SGI_i}{n} \tag{7}$$

Where

n = total employees evaluated.

Step 8: Categorize Skill Gap Levels

If $SGI < 1 \rightarrow$ Low Skill Gap

If $1 \leq SGI < 2 \rightarrow$ Moderate Skill Gap

If $SGI \geq 2 \rightarrow$ High Skill Gap

Step 9: Identify Training Priority

If SG_{TS} is highest \rightarrow Provide technical skill training

If SG_{SS} is highest \rightarrow Provide communication and service training

If SG_{DS} is highest \rightarrow Provide digital system training

With the assistance of this algorithm, the MSME hospitality enterprises can identify the gaps in employability systematically, prioritize training interventions, and enhance the competency of the workforce to its relation with the industry needs.

Data Analysis and Results

Demographic Profile of Respondents

The demographic patterns of the respondents would be valuable in the workforce set up in MSME hospitality establishments. According to the results, male respondents make up 59% of the entire sample, whereas female respondents take 41%. This distribution is an indication of the gender participation trend that is evident in the hospitality MSME which features the slight predominance of male employees in the operational areas like kitchen management, logistics and service control. Nevertheless, the high number of female staff members indicate that more gender should be involved in the hospitality services, especially in front of office management, food and service and customer relations.

Table 2: Demographic Characteristics of Respondents (n = 210)

| Parameter | Category | Number of Respondents | Percentage (%) |
|------------------------|------------------------|-----------------------|----------------|
| Gender | Male | 124 | 59.0 |
| | Female | 86 | 41.0 |
| Age Group | 18–25 years | 64 | 30.5 |
| | 26–35 years | 82 | 39.0 |
| | 36–45 years | 41 | 19.5 |
| | Above 45 years | 23 | 11.0 |
| Education Level | Secondary education | 46 | 21.9 |
| | Diploma in hospitality | 72 | 34.3 |
| | Undergraduate degree | 63 | 30.0 |
| | Postgraduate degree | 29 | 13.8 |
| Respondent Type | Enterprise owners | 52 | 24.8 |
| | Managers | 63 | 30.0 |
| | Employees | 95 | 45.2 |

The demographic findings show that most of the respondents are within the 2635 years age bracket (39%), which is the relatively young working population. The greatest respondent group (45.2) is represented by employees who are working in MSME hospitality enterprises. The age distribution reveals that most of the respondents are of the age group 2635 years (39) and 1825 years (30.5). This means that young and early-career employees who can fit well in the dynamic service environments

are the ones that MSME hospitality enterprises depend on. Employees who are younger tend to be more flexible and open to adopt new methods of hospitality and digital technologies, which proves useful in the case of a company that is in transition towards technological transformation. The education profile also indicates that 34.3 percent of the respondents have diplomas in the field of hospitality, and 30 percent of respondents have undergraduate degrees. This implies that quite a good percentage of the workforce has undergone some formal education or vocation in hospitality.

Employees are the most numerous in terms of the occupational role (45.2%), then come managers (30% and enterprise owners (24.8%). This distribution indicates the working framework of MSME-based hospitality companies where workers constitute the main labour force in the delivery of services. The demographic analysis therefore reveals a fairly young and fairly educated workforce, which points to both opportunities and challenges in terms of developing skills and aligning the workforce as it is in the hospitality industry.

Analysis of Technical Skill Competency Levels

The evaluation of the level of technical skills competency among the employees of the hospitality industry shows that there are varied levels of operational competency among various classes of skills. The highest level of competency is demonstrated by hygiene and safety practices whereby 55 percent of employees are very competent. This finding demonstrates the weight attached to hygiene levels in hospitality business, particularly in food service business where sanitation and cleanliness are critical to ensuring that customers have faith in the business and that the business does not violate the set regulations. Equally, the level of competency is high at 52% under housekeeping procedures indicating that the employees are well versed with the knowledge of how to maintain service environments including guest rooms, dining areas, and kitchens.

Table 3: Technical Skill Competency Levels among Hospitality Employees

| Technical Skill Parameter | High Competency (%) | Moderate Competency (%) | Low Competency (%) |
|--|----------------------------|--------------------------------|---------------------------|
| Food service operations | 46 | 38 | 16 |
| Reservation management systems | 41 | 36 | 23 |
| Housekeeping procedures | 52 | 33 | 15 |
| Customer service operations | 49 | 34 | 17 |
| Inventory and supply management | 38 | 42 | 20 |
| Hygiene and safety practices | 55 | 30 | 15 |

According to the results, hygiene and safety rules (55%), as well as housekeeping (52%), demonstrate the highest level of competence, whereas reservation management systems (41%), and inventory management (38%), reveal the relative lack of technical efficiency of employees. The customer service operations are also fairly competent, with 49 percent of the employees having high competence. The result of this observation is that workers can, as a rule, handle lower-level service contacts with the customers, such as order processing, guest services, and service coordination. Nevertheless, moderate to low levels of competency are also noted by the results in some areas of operation. Only 41 percent of the employees demonstrate high competency in reservation management systems, which means that most of them do not feel familiar with the digital booking and reservation systems. This drawback can have an impact on the efficiency of operations in those enterprises that depend on the system of online booking and digital services. The inventory and supply management also have rather low competency levels as only 38% of employees report high competency levels. This competency is especially significant in hospitality business when effective inventory control directly determines the cost reduction and provision of the services.

Assessment of Soft Skill Gaps among Hospitality Employees

The evaluation of soft competencies skill shows a lot of gaps in employees within hospitality sectors in MSME enterprises. Communication skills indicate that 36 percent of employees are competent enough with 40 percent having moderate gaps and 24 percent having a high level of skills deficiencies. Communication is a key aspect of operations in the hospitality industry since employees are in frequent contact with their customers, fellow employees, and managers. Inefficiency in

communication may result in poor service delivery, customer dissatisfaction and delays in service. The findings, therefore, show that there is a definite necessity of communication training programs to improve the quality of the service interaction.

Table 4: Soft Skill Competency Gap Assessment

| Soft Skill Parameter | Adequate Skill (%) | Moderate Gap (%) | High Gap (%) |
|----------------------------|--------------------|------------------|--------------|
| Communication skills | 36 | 40 | 24 |
| Teamwork and collaboration | 42 | 37 | 21 |
| Customer service etiquette | 39 | 41 | 20 |
| Problem-solving ability | 34 | 43 | 23 |
| Conflict management | 31 | 45 | 24 |

The findings show that communication skills and conflict management have the greatest skill gaps with 24% high levels of skill gap noted in the two parameters. Adequate levels of the soft skills competency are exhibited by only 36-42 percent of the employees, hence the necessity of well-organized training programs. The results on teamwork and collaboration are a bit higher, with 42 percent of employees possessing sufficient skills.

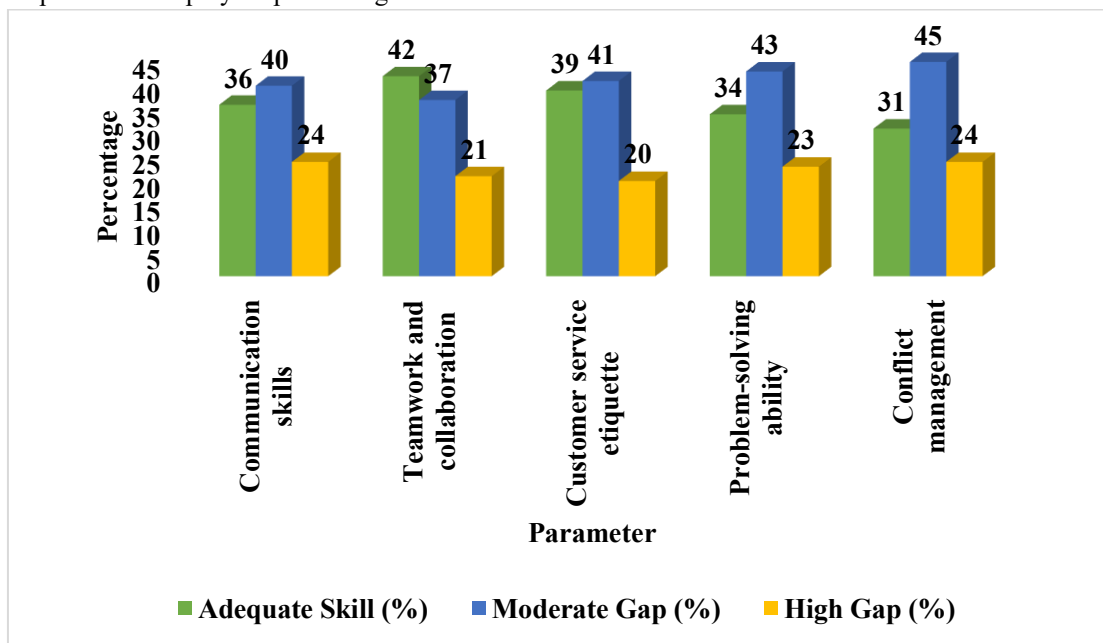


Figure 3: Soft Skill Competency Gap Assessment among MSME Hospitality Employees

Hospitality businesses work under very cooperative conditions where the coordination of the activities of the kitchen staff, service staff, and the management is the key to proper functioning. Nevertheless, the existence of middle gaps (37) implies that the employees might need further education in the coordination of teams and collaborative problem-solving. Etiquette customer service also has significant weaknesses with only 39% of the employees proving with sufficient competency. Customer experience has become a key component in the hospitality business and inefficient service etiquette may impact the enterprise image and customer loyalty directly. In figure 3, it is indicated that there are enough skills, moderate gaps, and high gaps among important soft skill parameters. There are significant gaps in communication, problem-solving and conflict management skills, and it was observed that the skill gap requires specific training programs to enhance interpersonal skills and service performance of MSME hospitality businesses. In the same way, problem-solving skill demonstrates an adequate competency of only 34% which implies that a significant number of employees might not manage to cope with the sudden service issues or customer complaints. The appropriate skill level is the lowest in conflict management (31%), which shows the challenge that employees encounter when managing an argument with a customer or a conflict at the workplace. On the

whole, the findings underline the essential role of the development of soft skills programs in supporting interpersonal skills and service delivery in hospitality businesses.

Digital Skill Readiness in MSME Hospitality Enterprises

Digital skills preparedness assessment points to the difference in the level of technological competency among the employees of the hospitality. Digital payment processing has the greatest level of preparedness with 53 percent of the employees displaying high competence. This outcome indicates the popularity of digital payment platforms among the hospitality industries where customers are increasingly using the mobile wallets, credit card, and online payment systems, which are cashless. The workers in service positions thus have first-hand experience with these technologies, which leads to an increase in the levels of competencies.

There is also fairly high competency in the use of point-of-sale (POS) system: 47% of employees are highly prepared. To handle billing, processing of orders and recordings of transactions, POS systems are extensively applied in restaurants and cafes. The efficiency of the employees to work with these systems facilitates quicker delivery of services and a better accuracy in the transactions. The level of readiness with respect to online booking system handling is slightly lower with 44 percent of employees exhibiting high levels of competence. This implies that not all employees can be well trained on how to handle the digital reservation systems or online customer support systems. Customer database management is even less prepared with lower levels of competency of 39% recorded by employees. Handling customer information and records on services would entail knowledge on digital management systems which are not always present in small hospitality businesses. The level of readiness is the lowest in social media promotion (36%), which can be explained by the fact that the employees might not use digital marketing tools as effectively as they can to market hospitality services. All in all, the results indicate that though the employees are already equipped with simple digital operational capabilities, further training is needed to reinforce digital marketing and data management competencies of MSME hospitality business.

Table 5: Digital Skill Competency among Hospitality Workforce

| Digital Skill Parameter | High Readiness (%) | Moderate Readiness (%) | Low Readiness (%) |
|---|---------------------------|-------------------------------|--------------------------|
| Online booking system handling | 44 | 37 | 19 |
| Digital payment processing | 53 | 29 | 18 |
| Point-of-sale (POS) system usage | 47 | 34 | 19 |
| Customer database management | 39 | 41 | 20 |
| Social media promotion skills | 36 | 43 | 21 |

These findings show that digital payment processing (53) is the most competent, whereas social media promotion skills (36) and customer database management (39) are less digital-ready as compared to the former. Figure 4 shows the level of digital competency of major operation technologies. Digital payment processing is willing most, and social media promotion and customer database management are the least willing, which implies that it is necessary to train the digital skills.

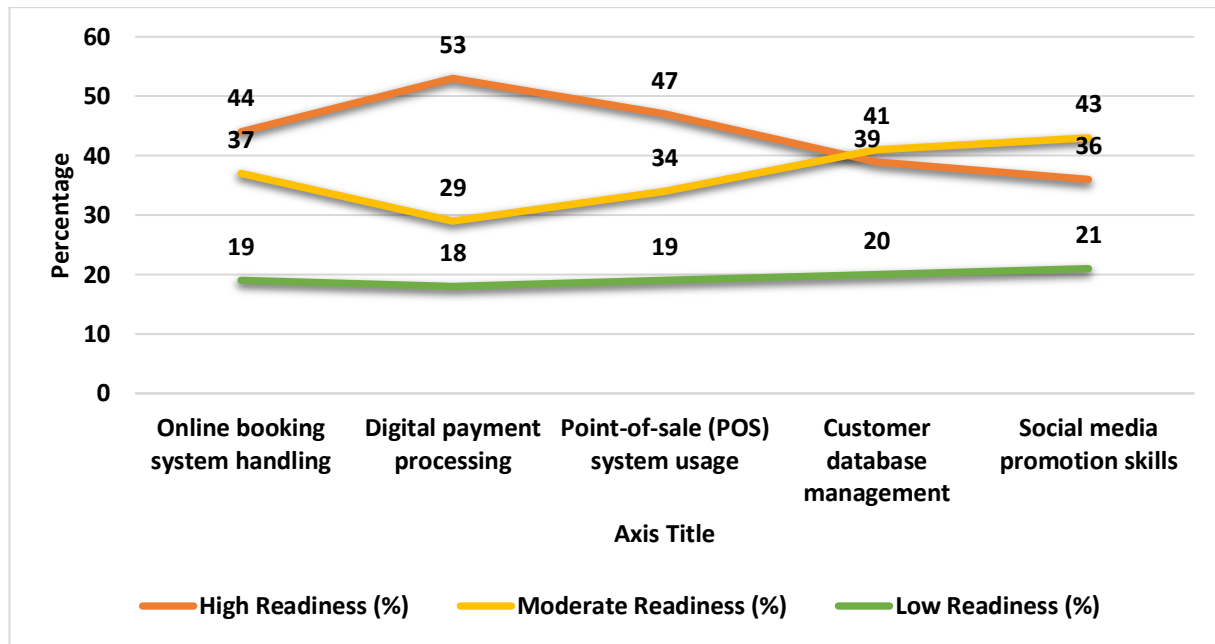


Figure 4: Digital Skill Readiness Levels among MSME Hospitality Workforce

Figure 4 shows the level of digital competency of major operation technologies. Digital payment processing is willing most, and social media promotion and customer database management are the least willing, which implies that it is necessary to train the digital skills.

Correlation between exposure to training and Employability Readiness

The correlation test of training exposure and employability readiness is useful in proving role of skill development programs in enhancing competency in the workforce. The findings indicate that formal training employees have a higher level of employability readiness of 72 percent as compared to the results of 48 percent level of readiness among employees who have never been exposed to training. This disparity brings out the favourable effects of formal training courses on labour readiness as well as working ability among MSME hospitality companies. Training programs also tend to equip the employees with both knowledge and practice which helps them to carry out the hospitality functions more effectively and with more confidence.

Table 6: Correlation between Training Exposure and Workforce Readiness

| Variable | Training Exposure (%) | Employability Readiness (%) | Correlation Coefficient (r) |
|--------------------------------|-----------------------|-----------------------------|-----------------------------|
| Employees with formal training | 58 | 72 | 0.72 |
| Employees without training | 42 | 48 | 0.41 |

The results of the correlation suggest that there is a strong positive correlation between training exposure and employability readiness ($r = 0.72$). Structured training has been shown to increase the levels of readiness among employees at a rate of 72 percent and this is compared to 48 percent readiness of employees who are not trained, which proves the significance of skill development programs. The value of the correlation coefficient $r = 0.72$ shows that there is a positive and strong relationship between training exposure and employability readiness. This statistical correlation implies that the greater the exposure to training programs, the better the workforce competencies. Workers in training courses learn on the service standards, operations processes, methods of interacting with customers and electronic systems in hospitality establishments. Through these competencies, employees are in a position to deliver the expectations of the industry and play a bigger role in ensuring that the enterprise performs better. Conversely, workers who have not been exposed to training demonstrate much lower readiness levels of employability. This indicates that a large proportion of the workers who join the MSME hospitality

businesses can be out of practical skills to serve the client professionally. Consequently, businesses can experience difficulties with the quality of services, efficiency of the operations and productivity of employees. The correlation analysis thus underscores the significant role of industry-based training programs, vocational training programs and the constant skill development measures in enhancing workforce preparedness in the hospitality industry.

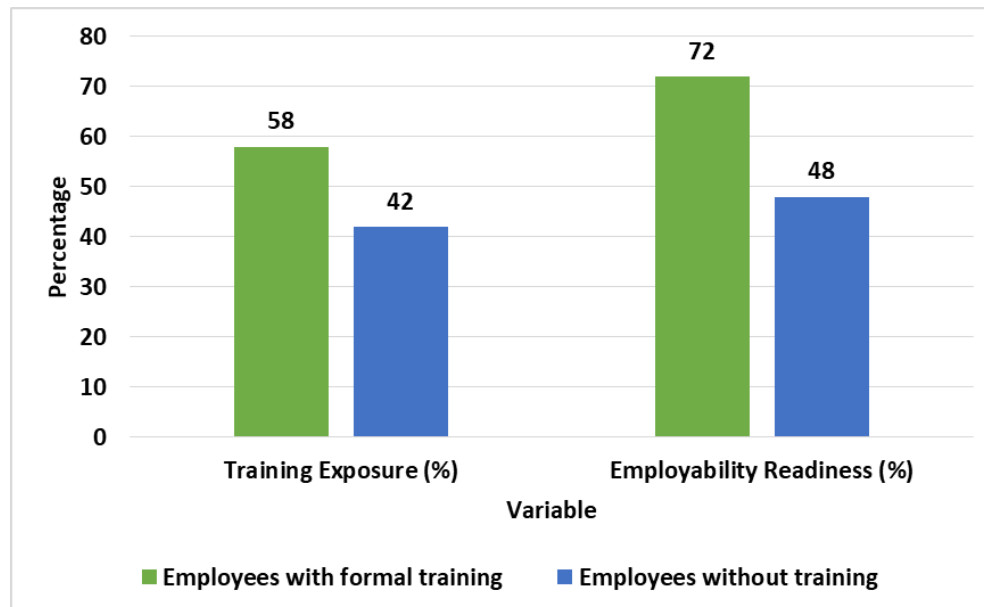


Figure 5: Relationship between Training Exposure and Employability Readiness in MSME Hospitality Workforce

As Figure 5 depicts, employees who have undergone formal training are more employable ready (72%) than those who have not undergone training (48%). The findings underscore the relevance of well-organized training programs in enhancing competency of workforce, efficiencies of operations, and quality of the services of the MSME hospitality enterprises.

Policy Implications and Industry Recommendations

Vocational Training structures that are industry based

Vocational training systems should also be designed by the industry to match the operational needs of the MSME hospitality businesses in terms of workforce competencies. The training programs must target on realistic service operations, customer management, internet reservation system and hygiene standards. The involvement of industries in curriculum design can take care of the training outcomes as per the emerging skills requirements of hospitality businesses.

Co-operation between MSMEs and Training Institutions

Effective partnership between MSME hospitality enterprises and hospitality training institutions should be used to enhance workforce preparation. Students can gain practical exposure in the areas of the industry, internship and practical workshop programs can assist in acquiring practical experience before one ventures into the employment. These collaborations allow the training institutions to revise course content to suit the industry needs and maximize employment.

Skill Certification and Continuous Professional Development Programs

The standardisation of the workforce skills can be assisted through skill certification programs within the hospitality industry. There should be constant programs of professional development where employees are updated on their technical, soft, and digital skills. The certification systems also assist the enterprises in identifying capable employees and the workers are encouraged to develop their professional competencies and career opportunities.

Mechanisms of Government and institutional support of MSME Workforce Development

MSME hospitality businesses should be supported by government agencies, institutional bodies such as provision of funding support, training subsidy and development of skills. Workforce competencies can be enhanced by policies that encourage vocational training, entrepreneurship training, and the acquisition of digital skills. These kinds of support mechanisms can help MSMEs to increase productivity, better the quality of services and sustainable creation of employment.

Conclusion and Future Research Directions

This paper was based on research of the employability gaps in MSME hospitality businesses and the correspondence of the workforce to industry needs. The results show that though the employees are moderate in basic tasks of hospitality industry like hygiene and service processes, there are significant gaps in areas of communication proficiencies, conflict management, reservation and digital service tools. The demographic information shows that hospitality workforce is rather young and has moderately high education levels, which means that they can be trained in the areas of skill development through specific training programs. The statistical analysis also shows that training of the workforce is important since those employees who had been subjected to structured training programs were considerably more employable. It was determined by means of correlation analysis that there was a strong positive connection between training exposure and workforce readiness, whereas the outcome of regression revealed that enterprises with higher skills alignment attained a higher level of productivity and better customer satisfaction results. The research has added value to the MSME hospitality workforce development research by providing a systematic approach to pinpointing employability skill deficiencies and measuring the match of competency and industry needs. The offered skill gap identification algorithm and competency evaluation model offer a structured method of MSME enterprises to estimate workforce competencies and plan a specific training intervention. In practical terms, the results shed some light on the significance of vocational training that is industry-oriented, the partnership between MSMEs and training organizations, and the implementation of constant skill improvement programs to improve the workforce competence and business competitiveness. Nevertheless, the research has some limitations such as the small sample of hospitality businesses and the use of self-reports on competency measures that could affect the measurement level.

To elevate this study, future studies can incorporate the use of digital training platforms that can offer scalable and flexible opportunities of enhancing skills of workers in the hospitality industry. Longitudinal research can be carried out to track the change in workforce competencies with time as training intervention lapses are put in place. Besides, it is possible to extend the given framework to other MSMEs in the tourism and service sectors to gain a deeper insight into the alignment of workforce skills in more service-based industries.

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