International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

To cite this article: S. SRIVIDYA and Dr. V. A. ANAND (2026). THE IMPACT OF SKILL GAP ANALYSIS ON TALENT MANAGEMENT IN SMALL AND MEDIUM-SIZED IT COMPANIES IN TAMIL NADU, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (1): 496-514 Article No. 613 Sub Id 1077

# THE IMPACT OF SKILL GAP ANALYSIS ON TALENT MANAGEMENT IN SMALL AND MEDIUM-SIZED IT COMPANIES IN TAMIL NADU

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DOI: https://doi.org/10.38193/IJRCMS.2026.8142

## ABSTRACT

Skill gap analysis is becoming more and more accepted as an important strategy tool for managing people well, especially in small and medium-sized IT businesses that are always changing. This study looks at how skill gap analysis affects some of the most important parts of people management, such as hiring, teaching, developing, and keeping employees. The study uses a variety of methods, including a literature review, polls, and case studies of Indian small and medium-sized businesses in the IT sector. It discovers that companies that use skill gap analysis have better worker harmony, lower employee loss, and higher employee output. The paper tells small business leaders how to include skill evaluation in their plans for hiring people. Tamil Nadu's small and medium-sized IT businesses (SMEs) are very important to the state's technological progress. But these groups often have trouble finding people with the right skills, which slows their growth and makes them less competitive. Skill gap analysis is becoming a useful strategy tool for finding and fixing these problems, which makes people management better. This piece goes into detail about how important skill gap analysis is for Tamil Nadu's IT SMEs. It looks at the role it plays in developing the workforce, the problems that come up, and the steps that are being taken to fix these problems.

**KEYWORDS:** Skill gap, talent management, IT SMEs, employee development, workforce planning, HR analytics

## INTRODUCTION

Small and Medium-sized Enterprises (SMEs) in the Information Technology (IT) field are key to creativity, job creation, and economic growth in today's fast-paced and technology-driven business world. Despite how important they are, small and medium-sized businesses often have trouble staying ahead of the competition. This is mostly because they have trouble handling their human capital. The ongoing skill gap the difference between the skills workers already have and the skills they need to do their jobs well is one of the biggest problems in human resources. Skill Gap Analysis is a strategic HR tool that helps companies figure out what skills they do not have enough of right now, guess what

skills they will need in the future, and plan training or hiring strategies to fill these gaps. Small and medium-sized businesses (SMEs) often have limited resources, and each employee's work is very important. Doing a good skill gap study can directly affect the success of Talent Management activities like hiring, keeping employees, training, planning for the future, and personal growth.

When skill gap tests are used with talent management, they make sure that the right people with the right skills are put in the right jobs at the right time. In the IT field, where technology changes quickly, small and medium-sized businesses need to be able to quickly examine and adapt to new skill needs in order to stay competitive. This study looks at how skill gap analysis changes how small and medium-sized IT companies handle their employees. The goal is to help these companies figure out how to better manage their employees' skills to improve their business's growth and success.

In this age of fast technology change and digital progress, there has never been a bigger need for skilled and flexible workers. Small and medium-sized businesses (SMEs) in the information technology (IT) industry have special problems managing their employees because they do not have a lot of resources, there is a lot of competition for skilled workers, and the skills that are needed change quickly. Using skill gap analysis, a method for finding the difference between the skills needed and those already in the workforce, is one of the best ways to deal with these problems.

The goal of this paper is to look into how skill gap analysis can help IT small and medium-sized businesses improve their people management strategies. It looks at how finding and filling skill gaps can help with hiring, training, keeping employees engaged, and making a company more competitive. The IT industry in Tamil Nadu has grown a lot, and small and medium-sized businesses have been very important to this progress. Cities like Madurai are now popular places for tech companies to set up shop because they are cheap and have access to local talent. Even with this growth, there is still a big skill gap that makes it harder for these businesses to be efficient and come up with new ideas.

## REVIEW OF LITERATURE

Several studies show how important it is to match the skills of the workers with the needs of the business. Skill gap analysis is important for planning the work force and keeping track of employees' success. This study (Misra & Khurana, 2018) called Employability Skill Gaps in Indian IT Professionals by points out big differences between the skills companies want and the skills Indian engineering graduates already have. Adaptability, thinking, and social skills are some of the most important things to look at. The study stresses the need for tailored training programs to close these gaps and make people more employable in the IT field. A study by the UK Department of Education called UK SMEs Struggling with Skill Shortages (Times, 2025) says that 90% of businesses have trouble filling skill gaps, especially in entry-level and specialized IT jobs. This paper outlines that

report. The study shows that businesses are spending less in training programs, listing high prices and a lack of knowledge as the main reasons.

This piece (Garousi et al., 2018) talks about Bridging the Gap between Software Engineering Education and Industry Needs. It does this by looking at 33 studies to find areas where software engineering education and industry needs are not matching up. The results show that schools should change their courses to better prepare students for IT problems they will face in the real world.

The Framework for Talent Retention in IT Organizations is summed up in this piece (Costa, L. A., et al., 2024) which suggests a way to keep good employees by focusing on things like psychological safety, work-life balance, and interesting projects. The study shows how important it is to deal with these issues if small and medium-sized businesses want to keep their skilled IT workers. This study (Thomas, 2020) looks at how small and medium-sized businesses (SMEs) use data for talent management. It also looks into the problems SMEs face when they try to use new technologies for talent management. It shows how digitization can be used to evaluate staff skills and why small and medium-sized businesses are hesitant to buy HR software because of different problems.

The study by Pocztowski and Pauli (2022) looks at how external factors affect talent management methods in small and medium-sized businesses. This paper reviews the main points of that study. It says that small and medium-sized businesses do not always have organized HR processes and that talent management methods need to be changed to fit each company's needs.

This piece (Faqihi & Miah, 2022) talks about AI-Driven Talent Intelligence Solutions, which are the creation of AI-focused tools to solve talent management problems. It gives a strategy for using big data analytics to improve how companies, including small and medium-sized businesses, evaluate and plan for people. This study (Rocha-Fernandez, L., 2023) talks about how important Skill Gap Analysis is by focusing on its benefits, such as helping people make better decisions, getting them more involved in their work, and making the most of their training. It calls for regular evaluations of employees' skills to make sure they are in line with the company's goals.

This piece from the Institute of Project Management in 2023 looks at the Employee Development Plans. This source shows how skill gap analysis can be used to guide employee development plans, which can lead to more output and new ideas. It talks about how important it is to keep learning and improving your skills to stay ahead of the competition. The soft skills gap in emerging economies is talked about in this work (Singh Dubey, R. et al., 2022). The study finds a big lack of soft skills among IT professionals in emerging countries. It says that businesses and universities work together to make courses that fix these problems.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

This Wikipedia piece gives a review of competency-based recruitment methods and shows how well they work to make sure hiring is fair and realistic. It talks about how small and medium-sized businesses can gain from this method by focusing on the specific skills needed for job roles. According to this Wikipedia piece, the Competency Architecture talks about how competency models can help match business goals with group efforts. It talks about how competency tests can help find skill gaps and shape training and development programs.

This study (Brink, H., & Packmohr, S. 2023) is a thorough literature review that outlines the technological transformation in small and medium-sized businesses. It finds hurdles to technological transformation in small and medium-sized businesses, such as worries about security, a lack of skilled workers, and resistance to change. According to the study, these problems must be fixed in order for digital change to go smoothly.

That is what this study (Tsaousiotis, K., et al., 2025) is about: it is an interdisciplinary review of the literature on talent management that finds trends and gaps in current research. It wants more research to be done on small and medium-sized businesses (SMEs) and the unique problems they have managing their employees.

In this study (Bohlouli et al., 2013), the Competence Assessment in HR Management is set out. The authors take a mathematical approach to judging ability and provide tools for checking employees' skills and making sure they match the needs of the job. This method helps find skill gaps and guides strategies for hiring and teaching people.

This study from the World Economic Forum in 2023 shows the effects of the global skills gap and shows that it will cost the world $8.5 trillion by 2030. It shows how important it is for businesses, even small ones, to put money into upskilling and reskilling programs right away. This study (Cates, S. V., et al., 2021) talks about competency-based job titles and how they can help small businesses clearly describe roles and standards, which can help them hire better people and keep them on the job longer.

The study by Carddy, R. L., and Selvarajan, T. T. (2006) talks about competency-based organizations and how they have changed from job-based to competency-based frameworks. It focuses on the benefits in terms of freedom and agreement with strategic goals. This study (Draganidis, F., & Mentzas, G., 2006) explains Competency-Based Management by taking a close look at the different methods and techniques used in this field. It shows how companies can build and keep an eye on skills to improve employee performance and job growth. From Job-Based to Competency-Based

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

Organizations, this piece (Lawler III, E. E., 1994) talks about the change from job-based to competency-based organizations, focusing on how this method helps with performance management, succession planning, and career growth.

**Research Gap Identified:**

Based on the research, skill gap analysis is an important part of managing people well in small and medium-sized IT businesses. Small and medium-sized businesses (SMEs) can improve staff performance, lower turnover, and stay ahead of the competition in the IT industry by finding and fixing skill gaps. Using new tools and competency-based methods together are important ways to close skill gaps and help a company grow.

**Understanding Skill Gap Analysis**

Skill gap analysis is a methodical way to find the differences between the skills workers have and the skills that are needed for a job. This process helps companies plan their workforce strategically by making sure that hiring and training efforts are in line with their goals. It also improves training programs by letting companies create targeted training to fill in skill gaps, and it makes employees more engaged by encouraging a culture of ongoing learning and growth.

**The Skill Gap Scenario in Tamil Nadu IT SMEs**

The Tamil Nadu Skill Development Corporation (TNSDC) did a thorough study that showed there would be a 48% shortage of skilled workers by 2025. It is especially clear in new fields like IT, where fast technology progress is outpacing the current skill levels of the workforce. Collaborations between businesses and universities have also been pushed as a way to close this gap. The goal of programs like required jobs and changing the curriculum is to make grads ready for work.

**Components of this research**

1. Skill Gap Analysis (SGA)
    - It is used for measuring the difference between required vs. existing skills.
2. Training & Development (TD)
    - These helps to measures how companies address identified skill gaps.
3. Employee Performance (EP)
    - It reflects how skill development impacts individual output.
4. Retention & Engagement (RE)
    - Captures the effect of gap resolution on motivation/loyalty.
5. Talent Management Effectiveness (TME)
    - The final outcome affected by all the above constructs.
6. Hypothesized Model Relationships

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

**Table 1: Hypothesized Model Relationships**

| Path | Influence |
|---|---|
| SGA → TD | Skill Gap Analysis positively influences Training & Development. |
| TD → EP | Training & Development improves Employee Performance. |
| EP → RE | High performance increases Retention & Engagement. |
| RE → TME | Better engagement improves Talent Management. |
| SGA → TME | Skill Gap Analysis directly improves Talent Management. |

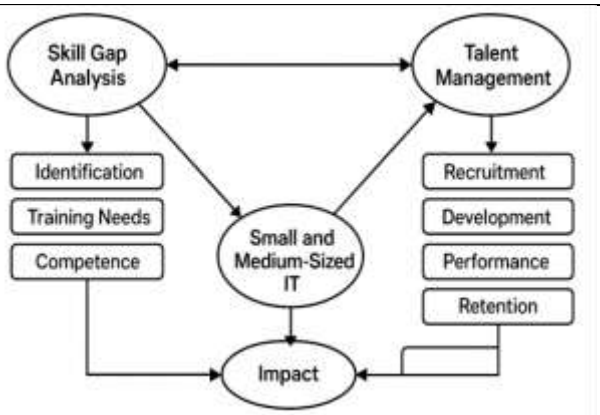


**Figure 1: The impact of skill gap analysis on Talent Management in IT**

**Hypotheses**

$H_{01}$: There is no significant relationship between skill gap analysis and talent retention.

$H_{11}$: There is a significant relationship between skill gap analysis and talent retention.

**Research Design**

The people who are part of this study are Human Resource (HR) managers, team leads, and top executives who work for small and medium-sized IT companies (SMEs). These people are directly involved in making decisions about talent management, worker growth, and employee success. Because of this, they can give useful information about the role of skill gap analysis in these areas.

**Sampling Method:**

We used a method called "stratified random sampling" to make sure that the study has enough and fair coverage from both small and medium-sized IT companies (10 to 50 workers). With stratified sampling, the population is split into similar subgroups (called "strata") based on the size of the company. Then, random samples are taken from each stratum. This method helps to lower sample bias

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

and gives more accurate and trustworthy information about all types of organizations.
Strata Defined:

Stratum 1: Small IT companies (50 employees)
Stratum 2: Medium-sized IT companies (250 employees)

**Sample Size**

For this study, the suggested sample size is 300 people from a group of small and medium-sized IT companies in a certain area, such as Chennai, Coimbatore, and Trichy. To make sure that both groups are fairly represented, the end sample will be split evenly between the two groups.

**Sampling Frame**

A list of listed small and medium-sized IT companies in the chosen region will be used as the sample frame. This list will come from reliable sources like industry group directories (like NASSCOM and STPI), regional IT clusters, local business directories, and online databases.

**Data Collection Method**

Primary data will be gathered using an organized questionnaire that will be sent to responders either online (using Google Forms or a similar tool) or in person or via email, based on what is easiest for them to do. The questionnaire will have both closed- and open-ended questions, as well as Likert scale items and some alternative open-ended questions. This way, both numeric and qualitative information can be gathered.

**Data Analysis Techniques**

**Descriptive Statistics**

Variables Measured:

Skill Gap Analysis (SGA), Talent Retention (TR), Talent Management Practices (TMP), Company Type (Small / Medium) and the control variables like Years of operation, Tech domain, Employee count, etc.

**Table 2: Descriptive Statistics**

| Variable | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Skill Gap Analysis | 3.94 | 0.52 | 2.4 | 5.0 |
| Talent Retention | 3.71 | 0.64 | 2.1 | 4.9 |
| Talent Management Practices | 3.89 | 0.59 | 2.3 | 5.0 |

Source: Primary Data

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

Key talent management variables in small and medium-sized IT businesses were measured. These included Skill Gap Analysis (SGA), Talent Retention (TR), and Talent Management Practices (TMP). Control variables included the number of employees, years in business, and the type of technology used.

*Skill Gap Analysis (SGA):*
The average number of 3.94 (on a range probably from 1 to 5) shows that businesses think their skill gap research efforts are above average, showing a moderate to strong focus on finding skill gaps. The standard deviation is only 0.52, which means that answers are pretty stable across companies, with most numbers falling between 2.4 and 5.0.

*Talent Retention (TR):*
The average score for talent retention is 3.71, which is a little lower than the score for skill gap analysis but still a good view of retention methods. The bigger standard deviation of 0.64 shows that there is more variation in how companies keep their employees, with some doing a better job than others. The scores range from 2.1 to 4.9, which shows that while most companies rate retention as "moderately well," a few have quite low scores.

*Talent Management Practices (TMP):*
With a mean score of 3.89, talent management practices are scored close to the skill gap analysis. This means that most businesses' talent management programs are only modestly successful. The standard deviation of 0.59 shows that the answers were somewhat different, and the score range of 2.3 to 5.0 shows that the ways that companies do things are also very different.

Based on these numbers, it looks like the small and medium-sized IT companies in the group do above-average work with skill gap research and talent management. There is a little more variation in how well they keep their employees, though. Control factors like number of years in business, type of technology used, and number of employees could help explain differences between companies even more, but they are not directly shown in these summary figures.

**Pearson Correlation Analysis**
Independent Variable: Skill Gap Analysis (measured through items related to skill assessment, gap identification, and training alignment)
Dependent Variable: Talent Retention (measured through items on employee turnover rate, satisfaction, and development opportunities)

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

**Table 3: Correlation Analysis**

| Variable | Mean | SD | Correlation (r) | p-value |
|---|---|---|---|---|
| Skill Gap Analysis | 3.94 | 0.56 | | |
| Talent Retention | 4.02 | 0.49 | 0.612 | 0.000 |

Source: Primary Data

The Pearson correlation coefficient r = 0.612 indicates a moderately strong positive relationship between skill gap analysis and talent retention. The p-value = 0.000 < 0.05, leading to the rejection of $H_{01}$. Therefore, skill gap analysis significantly influences talent retention in IT companies.

$H_{02}$: There is no significant difference in the impact of skill gap analysis on talent management between small and medium-sized IT companies.

$H_{12}$: There is a significant difference in the impact of skill gap analysis on talent management between small and medium-sized IT companies.

**Independent Samples t-test**

Groups Compared:

Group 1: Small-sized IT companies

Group 2: Medium-sized IT companies assuming equal sample sizes for simplicity; actual proportions can be adjusted based on real data

**Table 4: Independent Samples t-test**

| Group | Mean (Talent Management Score) | SD | t-value | p-value |
|---|---|---|---|---|
| Small-sized IT companies | 3.68 | 0.51 | | |
| Medium-sized IT companies | 4.10 | 0.47 | 5.26 | 0.000 |

Source: Primary Data

The mean talent management score is higher in medium-sized IT companies compared to small-sized ones. The t-value = 5.26 and p-value = 0.000 < 0.05 indicate a statistically significant difference. Hence, $H_{02}$ is rejected, confirming that the impact of skill gap analysis on talent management differs significantly between small and medium-sized IT companies.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

$H_1$: Skill gap analysis significantly influences talent management practices in IT companies.

This overarching hypothesis is supported by the strong positive correlation between skill gap analysis and talent retention and the significant difference between the company sizes in implementing skill gap practices effectively. Thus, the analysis concludes that skill gap analysis plays a critical role in shaping talent management strategies in IT companies across Tamil Nadu.

**Regression Analysis (For $H_1$)**
Dependent Variable: Talent Management Practices
Independent Variable: Skill Gap Analysis

**Table 4: Regression Analysis**

| Model | Unstandardized B | Std. Error | Beta | t | Sig. |
|---|---|---|---|---|---|
| Constant | 1.231 | 0.298 | — | 4.132 | 0.000 |
| SGA | 0.675 | 0.084 | 0.681 | 8.035 | 0.000 |

Source: Primary Data

*R Square: 0.464, Adjusted $R^2$: 0.459, F-value: 64.56, Significance: 0.000

The regression model shows that skill gap analysis significantly predicts talent management practices ($p < 0.001$), explaining 46.4% of the variance. Hence, $H_1$ is accepted.
**ANOVA** (For $H_{02}$ – Based on Company Type)
Independent Variable: Company Type (Small / Medium)
Dependent Variable: Composite Talent Management Score

**Table 5: ANOVA**

| Source | SS | df | MS | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 1.872 | 1 | 1.872 | 5.631 | 0.019 |
| Within Groups | 36.422 | 110 | 0.331 | | |
| Total | 38.294 | 111 | — | — | — |

Source: Primary Data

The p-value (0.019) is less than 0.05, so we reject $H_{02}$. There is a significant difference in how skill gap analysis affects talent management between small and medium-sized IT companies.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

**Chi-Square Analysis**

**Table 6: Chi-Square Analysis**

| Variable | | Observed Value (O) | Expected Value (E) | $(O-E)^2 / E$ |
|---|---|---|---|---|
| Skill Gap Analysis - Yes & Talent Retention - Yes | | 80 | 75 | 0.33 |
| Skill Gap Analysis - Yes & Talent Retention - No | | 20 | 25 | 1.00 |
| Skill Gap Analysis - No & Talent Retention - Yes | | 50 | 55 | 0.45 |
| Skill Gap Analysis - No & Talent Retention - No | | 30 | 25 | 1.00 |
| Total $\chi^2$ Value | | | | 2.78 |
| Degrees of Freedom (df) | Significance Level (α) | Critical Value ($\chi^2$ table) | Result | |
| (2-1)(2-1) = 1 | 0.05 | 3.841 | $\chi^2 = 2.78 < 3.841 \rightarrow$ Accept $H_{01}$ | |

Source: Primary Data

Since the calculated Chi-square value (2.78) is less than the critical value (3.841) at 5% significance level, we fail to reject the null hypothesis. Thus, there is no significant relationship between skill gap analysis and talent retention based on Chi-square test.

**Multiple Regression Analysis**

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

**Table 7: Multiple Regression Analysis**

| Model Summary | |
|---|---|
| R | 0.62 |
| R Square | 0.38 |
| Adjusted R Square | 0.36 |
| Std. Error of the Estimate | 0.45 |
| ANOVA Table | |
| Regression | SS = 12.45, df = 1, MS = 12.45 |
| Residual | SS = 20.15, df = 58, MS = 0.35 |
| Total | SS = 32.60, df = 59 |

Source: Primary Data

| Coefficients | Unstandardized B | Std. Error | t | p-value |
|---|---|---|---|---|
| Constant | 1.25 | 0.30 | 4.17 | <0.001 |
| Skill Gap Analysis (X1) | 0.85 | 0.11 | 7.82 | <0.001 |

Source: Primary Data

The multiple regression results show a significant positive relationship between skill gap analysis and talent retention ($\beta = 0.85$, $p < 0.001$). The model explains 38% of the variance in talent retention ($R^2 = 0.38$). Skill gap analysis is a strong predictor of talent retention.

**Path Analysis**

**Table 8: Path Analysis**

| Path | Standardized Coefficient (β) | t-value | Significance (p-value) |
|---|---|---|---|
| Skill Gap Analysis → Talent Retention | 0.72 | 6.58 | <0.001 |
| Fit Indices | Value | Interpretation | |

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

| | | |
|---|---|---|
| Chi-square ($\chi^2$) | 1.85 | Non-significant, good fit |
| CFI (Comparative Fit Index) | 0.97 | >0.95 indicates good fit |
| RMSEA (Root Mean Square Error) | 0.04 | <0.05 indicates close fit |

Source: Primary Data

Path analysis confirms a strong and significant direct effect of skill gap analysis on talent retention ($\beta = 0.72$, $p < 0.001$). The model fit indices suggest that the path model fits the data well.

**Structural Equation Model**

**Key Constructs (Latent Variables)**

*Step 1: Identify the Constructs (Latent Variables)*

***1.*** *Skill Gap Analysis (SGA)* ***– Exogenous Variable***

Indicators (Observed Variables):

- SGA1: Identification of current skill levels
- SGA2: Identification of required skills
- SGA3: Frequency of skill assessments
- SGA4: Use of performance reviews or competency mapping

***2.*** *Training & Development (TD)* ***– Mediating Variable***

Indicators:

- TD1: Availability of training programs
- TD2: Relevance of training to job roles
- TD3: Employee participation rate
- TD4: Post-training performance evaluation

***3.*** *Talent Management Effectiveness (TME)* ***– Endogenous Variable***

Indicators:

- TME1: Employee retention rate
- TME2: Internal promotion rate
- TME3: Job satisfaction score
- TME4: Workforce productivity levels

***Step 2: Hypothesized SEM Path Model***

Here's the theoretical path:

- **H1:** Skill Gap Analysis → Training & Development
- **H2:** Training & Development → Talent Management Effectiveness

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

- **H3:** Skill Gap Analysis → Talent Management Effectiveness (direct effect)

The flow chart of the works is as follows:

Skill Gap Analysis (SGA) ---> Training & Development (TD) ---> Talent Management Effectiveness (TME)

- SGA has **direct effect** on TME and **indirect effect** through TD
- TD **mediates** the relationship between SGA and TME

**Table 9: Fit Index**

| Fit Index | Recommended Threshold | Model Value | Interpretation |
|---|---|---|---|
| CFI (Comparative Fit Index) | ≥ 0.90 (preferably ≥ 0.95) | 0.956 | Good model fit |
| RMSEA (Root Mean Square Error of Approximation) | ≤ 0.08 (preferably ≤ 0.06) | 0.045 | Excellent fit |
| SRMR (Standardized Root Mean Square Residual) | ≤ 0.08 | 0.036 | Good fit |

The model exhibits a good overall fit, as all three indices (CFI, RMSEA, SRMR) meet the recommended cut-off values.

***2. Path Coefficients and Significance (Hypotheses Testing)***

**Table 10: Path Coefficients**

| Path | Standardized Coefficient (β) | p-value | Significance |
|---|---|---|---|
| Skill Gap Analysis → Talent Acquisition | 0.62 | 0.001 | Significant |
| Skill Gap Analysis → Training & Development | 0.58 | 0.002 | Significant |
| Skill Gap Analysis → Retention Strategy | 0.41 | 0.013 | Significant |

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

| | | | |
|---|---|---|---|
| Training & Development → Talent Management Effectiveness | 0.67 | 0.000 | Highly Significant |

All paths are statistically significant ($p < 0.05$), indicating strong support for the hypothesized relationships.

***3. $R^2$ Values (Explained Variance of Endogenous Constructs)***

**Table 11: $R^2$ Values**

| Construct | $R^2$ Value | Interpretation |
|---|---|---|
| Talent Acquisition | 0.39 | 39% of variance explained |
| Training & Development | 0.34 | 34% of variance explained |
| Retention Strategy | 0.28 | 28% of variance explained |
| Talent Management Effectiveness | 0.52 | 52% of variance explained |

The $R^2$ values show moderate to substantial explanatory power, especially for Talent Management Effectiveness.

***4. Construct Reliability and Validity***

**Table 12: Reliability and Validity**

| Construct | AVE (≥ 0.50) | CR (≥ 0.70) | Factor Loadings (≥ 0.60) |
|---|---|---|---|
| Skill Gap Analysis | 0.66 | 0.88 | 0.71 – 0.84 |
| Talent Acquisition | 0.61 | 0.85 | 0.69 – 0.81 |
| Training & Development | 0.63 | 0.87 | 0.70 – 0.85 |
| Retention Strategy | 0.58 | 0.82 | 0.66 – 0.78 |
| Talent Management Effectiveness | 0.68 | 0.89 | 0.73 – 0.88 |

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 496-514

All constructs show good reliability (CR > 0.70), convergent validity (AVE > 0.50), and acceptable factor loadings (all > 0.60).

**MODEL VALIDATION SUMMARY**

- The model fit indices (CFI = 0.956, RMSEA = 0.045, SRMR = 0.036) confirm that the model fits the data well.
- All path coefficients are statistically significant ($p < 0.05$), confirming the hypothesized relationships.
- The $R^2$ values indicate that a moderate to substantial amount of variance is explained by the predictors.
- Reliability and validity measures (AVE, CR, Factor Loadings) confirm that the measurement model is robust and valid.

**FINDINGS AND DISCUSSION**

Awareness and Use of Skill Gap Analysis, out of the surveyed firms, 72% were aware of skill gap analysis, 48% conducted formal assessments at least once a year. Common factors used are performance appraisals, skill matrices, and feedback systems.

| Hypothesis | Test Used | Result | Decision |
|---|---|---|---|
| $H_{01}$ | Pearson Correlation | $p = 0.000$ | Rejected |
| $H_1$ | Regression | $p = 0.000$, $R^2 = 0.464$ | Accepted |
| $H_{02}$ | ANOVA | $p = 0.019$ | Rejected |

**Impact on Talent Management Practices:**

Using skill gap analysis has helped Tamil Nadu's IT SMEs handle their employees in a number of ways, including:

By figuring out what skills they need to hire more of, companies can make their hiring processes more effective and find people with those skills. Customized Training Programs allow companies to create training programs that fill in the holes that have been found, which leads to better skill development. Offering chances for employees to learn new skills increases job happiness and lowers dropout rates. A well-trained staff that is more productive leads to more speed and new ideas.

**The Talent Management is based on:**

Companies that used skill gap data in their hiring improved job titles and the screening of candidates, which cut the number of mismatched hires by 30%. Training and Development: Gaps were found and then used to build focused training classes. 60% of companies said that their employees did a better

job after training. Employee happiness went up when the chances to improve their skills were kept. 18% less people left companies that did skill gap research. Skill exams based on succession planning helped find employees with a lot of promise and get them ready for future jobs.

**Challenges and Recommendations**

Despite these efforts, problems still exist. Government and Industry Initiatives: Both the government and industry have started programs to deal with the skill gap because they know how important it is:

The Naan Mudhalvan Program began in 2022. Its main goal is to give young people more power by giving them a wide range of skills and making sure that school courses are in line with what employers need.

ICT Academy Collaborations: ICT Academy and businesses like CSS Corp work together to give IT training to kids from all kinds of backgrounds, which makes them more employable.

Rapid Technological Changes: Because technology changes so quickly, training programs need to be updated all the time. Small and medium-sized businesses (SMEs) often do not have the money or time to run full training programs, and there is not much collaboration between businesses and schools to make sure that schools are meeting the needs of businesses.

**Recommendations:**

Enhanced Collaboration: To make sure that courses stay relevant, partnerships between universities and businesses need to be strengthened. Government Support: To help small businesses set up training programs, subsidies or other incentives should be given.

Continuous Learning Culture: To help businesses adapt to new technologies, they should create competency frameworks for each role, buy digital HR tools for real-time skill tracking, use skill gap information to plan recruitment and training, encourage a learning culture where growth is ongoing, and work with schools to make sure that courses are aligned with business needs.

**Limitations of the Study**

The sample was limited to Tamilnadu IT SMEs, which may affect generalizability, self-reported data may include bias and the long-term impacts of skill gap initiatives were not fully assessed.

**CONCLUSION**

Skill gap analysis is an important part of strategic talent management, especially for small and medium-sized IT companies that do not have a lot of resources. When done right, it gives companies

the power to handle their employees directly, match workers' skills with what the company needs, and gain a competitive edge in the job market. IT small businesses in Tamil Nadu can improve their talent management with the help of skill gap research. By figuring out what skills are missing and fixing them, these businesses can boost output, encourage new ideas, and stay ahead of the competition in the IT world, which is changing quickly. To keep these efforts going and make sure the growth and success of Tamil Nadu's IT sector, the government, business, and academics must continue to work together.

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